

## **ATTACHMENT 1**

### **PERFORMANCE WORK STATEMENT (PWS) AND ACRONYMS AND DEFINITIONS**

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**LABORATORY SERVICES CONTRACT (LSC)**

**PERFORMANCE WORK STATEMENT (PWS)**

**for**

**NASA John C. Stennis Space Center, Mississippi**

**&**

**NASA Michoud Assembly Facility, Louisiana**

**October 2014**

## **LABORATORY SERVICES CONTRACT (LSC)**

### **SCOPE**

The National Aeronautics and Space Administration (NASA) has a requirement for laboratory services, which are not inherently governmental functions. This Performance Work Statement (PWS) describes services that are neither inherently governmental nor personal services in nature. These services are required by NASA to support its roles and missions at the John C. Stennis Space Center (SSC), Mississippi, and Marshall Space Flight Center's (MSFC) Michoud Assembly Facility (MAF), Louisiana. One Contractor will provide laboratory services to both locations, SSC and MAF. The Contractor shall manage and be responsible for providing all services, equipment and supplies, except as provided as Government Property, to implement this PWS.

The LSC PWS consists of Core Service Operations and Indefinite Delivery and Indefinite Quantity (IDIQ) requirements spread among the following work elements: Contract Management, Logistics, Safety, Health and Environmental, General Laboratory Services, Metrology Assurance, Measurement Standards and Calibration Services, Gas and Material Analysis Services, Environmental Laboratory Services, Natural Resources Services, and Stennis Institutional Geographic Information System (SIGIS) Services.

NASA may issue IDIQ Task Orders under the LSC on behalf of other Federal, State, commercial tenants or non-commercial tenants.

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## 1.0 CONTRACT MANAGEMENT Description

Performance Work Statement (PWS) Section 1, *Contract Management*, identifies the overall management and business administrative duties that cannot be identified for the performance of a single PWS functional area, or are applicable to, or related to performance of all of the functional areas described in the PWS. The Contractor ultimately has the responsibility to establish and maintain its contract management program to meet the requirements of this PWS, and to innovatively and effectively respond to dynamic institutional and direct mission support requirements, in a cost effective and customer oriented manner.

### Definitions

Definitions for the entire PWS are located in Appendix C (Acronyms and Definitions.) The latest edition of Merriam-Webster Dictionary will be used for defining words not specifically addressed.

### Acronyms

Acronyms for the entire PWS are located in Appendix C (Acronyms and Definitions.)

### Limitations, Restrictions, and/or Special Conditions

#### 1. Authority

The PWS describes several interfaces between the Contractor and the Government. However, nothing in the PWS is intended to supersede official channels of communication through the Contracting Officer (CO) and the Contracting Officer's Representative (COR). Only a CO has the authority to make any commitments or changes that affect price, quality, quantity, delivery, or in any way direct the Contractor or its subcontractors to operate in conflict with the contract terms and conditions.

#### 2. Core Service Operations

Requirements listed in this PWS are considered Core Service Operations or "Core" with the exception of those elements identified as IDIQ.

#### 3. Indefinite Delivery Indefinite Quantity (IDIQ)

Requirements considered IDIQ will be issued in accordance with contract Clause H.7, NASA FAR Supplement (NFS) 1852.216-80, *Task Ordering Procedure*. They include, but are not limited to, hardware testing and test operations support, manufacturing support, or special type and tenant/user (Government or Commercial) requirements.

Support to initiate IDIQ work, which includes but is not limited to business and technical management, shall be Core and fall within PWS Section 1. Staffing shall ensure the Contractor can adhere to Clause H.7 *Task Ordering Procedures* (NFS 1852.216-80.) Cost of IDIQ support shall be spread among all LSC customers.

The Contractor shall be responsible for providing IDIQ services within any functional area of the PWS.

4. Directives

It is the Contractor's responsibility to remain cognizant of and compliant with the most current version of applicable Federal, State, and local laws and regulations, Presidential Executive Orders, NASA Policy Directives (NPD), NASA Procedural Requirements (NPR), John C. Stennis Space Center (SSC), Michoud Assembly Facility (MAF), and George C. Marshall Space Flight (MSFC) Centers' Policy Directives, Procedural Requirements, Work Instructions (WI), Permits, and all attachments of this PWS. When two or more directives or instructions apply, Contractor personnel shall comply with the more stringent of the directives or instructions.

The most current versions of NPDs and NPRs can be found in the NASA Online Directives Information System (NODIS) at: [http://nodis3.gsfc.nasa.gov/Rpt\\_current\\_directives.cfm](http://nodis3.gsfc.nasa.gov/Rpt_current_directives.cfm)

The most recent version of SSC's SPDs and SPRs can be found in NODIS at: [http://nodis3.gsfc.nasa.gov/SSC\\_list.cfm](http://nodis3.gsfc.nasa.gov/SSC_list.cfm)

The most recent version of MSFC's MPDs and MPRs can be found in the following Directives Management System at: <https://dml.msfc.nasa.gov/directives/component/main?dmfClientId=1378760668236>

Other related documents can be found in Attachment 7, *Reference Library*.

5. Deliverable Reports Documentation (DRD)

Deliverable Reports Documentation includes automated completed reports and documentation required by all PWS sections. DRDs shall be submitted into the Government-provided Contract Deliverable System (CDS) by the dates identified in each DRD.

6. Hours of Operation

Normal business hours for SSC and MAF are 7:00 AM to 3:30 PM, Monday through Friday, except Federal Holidays. NASA and its tenants' requirements will dictate the Contractor's work hours and if applicable may include 24-hour, 7 day per week operations. For example, operations that require hours outside of normal work hours have averaged twice a month with the majority of the work supporting the Gas and Material Lab. Program requirements and schedules will dictate types and quantities of skills and work hours.

7. Interface with the Government, Tenants, and Other Contractors

The Contractor shall schedule and arrange work so as to cause the least interference with the normal occurrence of Government or tenant business and mission. Where interference is unavoidable, the Contractor shall make every effort to minimize the impact of the interference and its effects. The Contractor shall be aware of on-going operations, production, manufacturing and propulsion testing, as well as planned outages that may impact scheduling. Interface may require the Contractor's participation in meetings/teleconferences on a routine basis.

Short-term technical tasks may require the Contractor to provide highly specialized technical personnel or services for special designs when necessary.

The Contractor shall reschedule any work the CO/COR deems necessary to avoid unacceptable

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disruption to Government or tenant business. Rescheduling under these conditions shall not be at any additional cost to the Government. The Contractor shall maintain documentation of approval of work rescheduling from the customer and provide to CO or COR upon request.

All waste materials generated in the performance of this contract will be disposed of by NASA's service contractor.

### **8. Access**

Due to additional restrictions for access control in the SSC Test Complex Area or the MAF Manufacturing Facility, the Contractor shall be required to complete additional training as necessary to obtain access to restricted areas. See NASA/SSC SOI-8080-0040, *Test Area Access Control* and SOI-8080-0029, *Contractor Interface/Access*.

Daily access to perform work may be restricted during testing or manufacturing operations; therefore, the Contractor is expected to be aware of test and special manufacturing schedules and shall be flexible to reassign workers to alternate work tasks when access is denied. At MAF, the Contractor is responsible for obtaining permission for access in manufacturing areas from the appropriate supervisor responsible for that particular area.

At both Centers, various Tenant and Program related facilities/areas require prior approval before initiating work. It is the Contractor's responsibility to schedule and receive approval from the Tenant/Program representative prior to initiating such work.

## **1.1 Contract Administration**

### **Description**

Section 1.1, *Contract Administration*, identifies the overall contract administrative duties that are applicable to, or related to, performance of all of the functional areas described in the PWS.

### **General Requirements**

The Contractor shall provide all contract administration functions to ensure that all PWS requirements are accomplished. General administration requirements include, but are not limited to, the following:

#### **Vehicles**

Contractor employees at NASA facilities shall be subject to appropriate state regulations and Center vehicle policy and procedures. Roadworthy vehicles must be insured, state registered, and licensed. All Contractor and subcontractor employees shall hold a valid state driver's license and any other licenses that may be required to operate vehicles and equipment on the government sites.

### **Logos and NASA Communication Standards**

NASA Emblems Use of NASA emblems/devices (i.e., NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag) are governed by 14 CFR Part 1221.

Any proposed use of such emblems/devices shall be submitted to SSC or MAF/MSFC Office of



Communications for review and approval in accordance with such regulations.

## **Replacement, Modernization, and Renovation**

During the term of the contract, the Government may replace, renovate, or improve equipment, systems, facilities, components, and fixtures at the Government's expense. All replaced, improved, updated, modernized, or renovated equipment, facilities, components, and systems shall be maintained and operated, by the Contractor within the scope of the contract unless such changes result in an increase in requirements; at which time, the Contractor shall notify the CO.

## **Performance**

Work required under this contract will be expressed in the form of performance requirements.

Performance requirements are further defined in terms of performance objectives, performance measures, and performance standards. A performance objective is defined as a statement addressing the outcomes desired by the Government. Performance measures are defined as characteristics or attributes of achieving the performance objective that will be measured. Each performance measure has an assigned standard, i.e., a targeted level of performance. The basic performance objective, performance measures, and performance standards are identified in this PWS.

### **1.1.1 Management General Requirements**

The Contractor shall provide all contract, business and technical management functions to plan, organize, implement, control, track, report, and deliver all requirements within the scope of the LSC as described in this PWS for NASA, tenant or resident agencies, and commercial customers. *Technical Management* (Section 1.2) functions necessary for IDIQ requirements are also included as part of the Core Service Operations.

General management requirements shall include, but are not limited to, the following:

1. Designated one single point of contact for all contract operations. This individual shall have the autonomy needed to successfully bind the Contractor and act as primary interface between the Contractor and the CO/COR. Subcontractors and/or teaming arrangements shall integrate the management structure with the Contractor's management structure. The Contractor shall also be responsible for comprehensive subcontract management.
2. Perform technical, business, and safety functions to plan, implement, track, report, and deliver the required products and services described in the PWS and contract.
3. Complete requirements of this contract so work performed satisfies the following: fully meets the performance objective of the contract, is performed within the schedule, is accomplished within the cost estimate and is accomplished in a safe, professional, and high quality manner.
4. Apprise the CO and COR immediately of any issues that could have an adverse impact on successful performance of the contract requirements.
5. Provide financial data and other related business information only to the CO, COR, or designated representative as requested in support of planning, formulation, execution, reporting, budget calls, incremental funding actions, and other requests for contract financial information. Other requests may entail, but are not limited to cost estimates and analysis; basis of estimate detail; cost

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breakdowns per project, task, PWS, building location or site, etc. Information shall be accurately presented in a format that is understandable by requester and submitted by the requested date.

6. Continue to examine requirements with a goal to reduce operational costs by:
  - a. Performing cost-trade analyses on proposed improvements.
  - b. Identifying, recommending, and implementing improvements/innovations in coordination with the COR.
  - c. Recommending new or changing requirements based on a cost avoidance trade-off.
  - d. Provide continual efficiency improvements.
7. Assure the proper handling of sensitive and proprietary data to include but not limited to Government or third party data access, use, disclosure, reproduction, transmission, storage, and disposal activities.
8. Establish and sustain effective labor relations while using prudent business practices to ensure best value to NASA.
9. Develop and execute an effective management approach to ensure a strong technical foundation and an organizational structure, which stresses the flexibility and adaptability necessary to respond to dynamic requirements.
10. Develop and execute a management approach that results in employees' work areas being safe, clean and orderly.
11. Stennis Space Center has been established as an OSHA-recognized Voluntary Protection Program (VPP) Star Site. Therefore, the Contractor must receive a satisfactory OSHA evaluation within 18 months of contract start and maintain VPP Star status at SSC.
12. The Contractor shall maintain compliance to the SSC Quality Management System (AS9100/ISO9001) and Environmental Management System (ISO Standard 14001).
13. Develop and execute a management approach that ensures Contractor personnel conduct themselves in a proper, courteous, and business-like manner. Contractor personnel shall wear attire, which is neat, clean, and suited to the work or situation being performed such as personal protective equipment (PPE). Contractor personnel who interact with others concerning safety or emergency activities shall be able to communicate verbally in the English language.
14. SSC Only: Facility Manager Program (FMP) – The Contractor shall participate in the FMP in accordance with SCWI-8830-0001, *Facility Manager Program Handbook*. The program helps to ensure a safe, healthy, and efficient workplace for all NASA SSC building occupants and provides for centralized reporting of facility issues.
15. Ensure requested support and information is provided during internal and external audits and investigations performed by Government agencies or other authorized entities.
16. Work collaboratively with other NASA contractors in residence to ensure timely and effective execution of requirements. The Contractor shall develop overarching *Associate Contractor Agreements* (ACA's) in accordance with Section H.12, to facilitate integrated working relationships.
17. Provide instructions via customer interface (web-based, publication, etc.) for customers to request

services, and provide customer service feedback to the Contractor.

## **1.1.2 Documentation and Records Management**

### **General Information**

The Contractor shall provide a comprehensive records and files management program that will provide for the appropriate filing, storage, retrieval, and disposition of all records. A documentation plan for operation of the program shall be developed by the Contractor and submitted to the Government as specified in DRD DM01. The plan shall be prepared to comply with established records management regulations and guidelines.

The Contractor shall follow record management rules in accordance with NASA standards listed in this section.

All logs, records, files, databases, and workload data identified in the PWS shall be maintained and updated throughout the life of the Contract and as otherwise may be required by law, or regulatory authority, or policy. Records shall be available for review by the CO, or designated technical representative and auditors, and upon termination of the Contract, all NASA-owned, Contractor-held records shall be turned over to the Government in a format to be determined by the CO at that time.

Documentation, which includes, but is not limited to, plans, manuals, reports, drawings, and procedures conforming to NASA standards, shall be maintained, archived and stored in the repository appropriate to the type of documentation as described below.

In accordance with the respective Center's policy documents (SPR 1400.1 and MPR 1440.2) repositories will include the appropriate NASA electronic documentation systems, including but not limited to: NASA Technical Documentation System (Tech Doc), MSFC Integrated Document Library (MIDL), Design and Data Management System (DDMS), SSC Records Archive, and the Contract Deliverable System (CDS).

The Contractor shall utilize existing documentation to the maximum extent possible. The Contractor shall develop necessary documentation such as, but not limited to operating plans and procedures, maintenance and operating instructions, and other types of work instructions. The Contractor shall officially record and house all procedures and documentation in the appropriate NASA System in accordance with SPR 1440.1 and MPR 1440.2 and provide a complete index of Contractor procedures. Documentation and the document index shall be developed, managed, and maintained in accordance with NASA Standards listed in this section.

The Contractor shall manage and maintain records created for Government use or falling under the legal control of the Government, as well as new operational records and provide the Government or authorizing representatives' access when requested. The Contractor shall utilize the Government provided databases to manage the Government records and perform retrieval as requested.

Procedures governing the retention, retirement, and destruction of official NASA records are specified in NPR 1441.1, *NASA Records Retention Schedules (NRRS)*. NPR 1441.1 has been correlated to the NASA Agency Filing Scheme (AFS), which is contained in *Appendix D* of the NPR, and to the *General Records Schedules (GRS)* produced by the National Archives and Records Administration (NARA). NPR 1441.1 is available electronically from the NASA Online Directives Information System (NODIS).

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The Contractor shall maintain NASA-owned/contractor-held records in accordance with Agency policies:

1. NPD 1440.6, *NASA Records Management*
2. NPR 1441.1, *NASA Records Retention Schedules*
3. MPR 1440.2, *MSFC Records Management Program*
4. SPR 1440.1, *SSC Records Management Program*
5. SPR 1400.1, *Document Preparation, Numbering, and Management Guidelines and Standards*
6. Title 36 of the Code of Federal Regulations, Chapter XII, *National Archives and Records Management*
7. NASA-STD-2822, *Still and Motion Imagery Metadata Standard*

The Contractor shall provide the Government or authorized representatives' access to all records. All records shall contain supporting documentation to provide a complete audit trail. The Government reserves the right to inspect, audit and copy all records.

The Contractor shall deliver data that is fully readable without additional software and in a format acceptable to the Government.

### **1.1.3 Information Technology (IT)**

The Government will provide to the Contractor desktop computers, telecommunications, network connectivity, and related services required in the performance of services covered by this Contract. All requests shall be submitted to the respective Center's Office of the Chief Information Officer (OCIO) for guidance and approval. At SSC, the Contractor shall use SPD 2800.1 for guidance. The Government will not provide computer services required for the Contractor's internal operations such as corporate accounting or other Contract accounting.

Development, implementation, maintenance, and use of equipment, supplies, hardware, and software systems shall be in compliance with *NASA Security of Information Technology*, NPR 2810.1 as well as the respective Center's policies SPD 2810.1, *Information Technology (IT) Network Security*, and MPD 2800.1, *Management of Information Technology Systems and Services at MSFC*.

### **IT Security**

The Contractor shall ensure that its employees, in performance of the contract, complete annual NASA IT security training by the designated due date. The Contractor shall use the System for Administration, Training, and Educational Resources for NASA (SATERN) or the current NASA training system to meet this requirement. The Contractor shall ensure its employees adhere to NASA IT Security policies, procedures, computer ethics, and best practices.

Security of LSC IT resources shall be in adherence to NASA Agency and the respective Center's IT Security standards as outlined in NPR 2810.1, SPD 2810.1, and MPD 2800.1. The Contractor shall implement and provide an Information Security Management Plan as specified in DRD PT01 for all personnel and IT components (Including Contractor or Government owned, maintained, or operated).

NASA IT security personnel will have the authority to conduct security reviews at all Contractor locations that possess or use NASA data, or that operate, use, or have access to, NASA information systems. NASA data is defined as any data which is collected, generated, maintained, or controlled on behalf of NASA. This includes

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any methods used in the generation of said data. There should be no expectation of privacy when utilizing the Centers' networks.

These responsibilities shall extend to equipment that is acquired by the Contractor in support of the performance of the contract. All computer systems shall have virus protection and regular vulnerability scanning. IT security vulnerabilities shall be appropriately identified and remediated. IT security incidents shall be reported in accordance with DRD PT01. The Contractor shall assist the Government in maintaining a level of security that minimizes the threat of unauthorized access to IT resources and the destruction of NASA data.

### **Communications Systems**

The Contractor shall use the existing assigned radio frequencies for the respective PWS section functions, and shall be responsible for efficient communications on these frequencies. These frequencies are jointly used by other organizations and tenants site wide. All communications shall be effectively and efficiently accomplished. NASA will perform radio and frequency management. The Contractor shall be required to use encrypted radios if deemed necessary by the Government.

### **Desktop Hardware/Software**

The desktop IT hardware and standard software suite, as defined within NASA-STD-2805 and NASA-STD-2804, required to support the LSC Contractor will be provided by NASA. The LSC Contractor shall provide access to Government provided IT resources as needed for repair, inventory control, and/or configuration management. All software licenses shall be licensed to the Government.

### **LSC Support Systems**

The Contractor shall utilize existing IT Systems, software, databases, and files in performance of this contract. The Attachment 3, Government Furnished Property, contains the initial list. DRD LS01 will require the Contractor to submit an annual update to this list.

The Government may define additional systems in the future as required. Any new or existing system, database, spreadsheet, or other file that contains NASA data must follow the requirements of the following, but not limited to NPR 7150.2A, *NASA Software Engineering Requirements*, NPR 2841.1, *Identity, Credential, and Access Management*, and NPR 2800.2, *Electronic and Information Technology Accessibility* as well as all applicable documents.

The Contractor shall function as an end user for existing Center and Agency systems. The Contractor shall also have some responsibility for administration, development, operation, and maintenance of lab services software and IT systems, ensuring NASA IT security requirements are met for other new or existing systems directly supporting the contract.

The LSC will provide ongoing software and database administration operations and support for existing lab services IT systems that were developed on Government provided equipment. The LSC will also be responsible for application and database/interface design, development, implementation, and maintenance of the lab services products produced in the performance of the LSC.

The LSC shall implement configuration management of the application and database components of lab services products. No records shall be deleted from a database without the written consent of the COR.

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The third party OCIO/IT Contractor, responsible for data center hosting, will provide the systems administration and configuration management support for Government furnished hardware to all lab services systems except for internal lab services systems. The LSC shall be solely responsible for all support and maintenance of internal lab services systems.

All lab services software and IT system configuration changes and upgrades shall be approved by the appropriate Government Configuration Control Board (CCB) prior to implementation.

The Contractor shall maintain, implement, execute and manage all machine controlled, tooling, engineering specific, and machine-operated software. This includes documentation, execution, and maintenance of software processes. The Contractor shall ensure that software acquisitions or developments meet NASA's criteria per NPR 7150.2A, *NASA Software Engineering Requirements*.

The Contractor shall ensure that when a Commercial-Off-The Shelf (COTS) or open source software component is to be acquired or used, the following conditions are satisfied:

1. The requirements that are to be met by the software component are identified.
2. The software component includes documentation to fulfill its intended purpose (e.g., usage instructions).
3. Proprietary, usage, ownership, warranty, licensing rights, and transfer rights have been addressed.
4. Future support for the software product is planned.
5. The software component is verified and validated to the same level of confidence as would be required of the developed software component.

The Contractor is required to furnish all hardware and software necessary to meet contract requirements that is not provided by the Government such as: human resources, corporate purchasing, corporate accounting, or other contract accounting functions necessary to execute the scope of the LSC.

The Government may at any time access lab services databases and review any information contained therein. Lab services data, including all changes made under this contract, is Government property, for the exclusive use of the Government, and may not be transferred to another location, in any form, or used by the Contractor for any purpose except for work performed under this contract.

### **1.1.4 Emergency Management**

(Note: Post disaster activities related to removing debris or facility modifications shall be authorized on an IDIQ basis.)

#### **Description**

Emergency management includes all activities related to creating and implementing an emergency management program comprised of actions required prior to and during a disaster. This includes but is not limited to providing personnel for preparation activities who may remain working during the emergency event.

## General Requirement

The Contractor shall provide and maintain services to support NASA Emergency Management Preparedness at MAF and SSC.

The Contractor's obligation may include resolution of unusual or emergency situations. The Contractor may be required to assist NASA, within the general scope of work, but in currently unidentified ways, in preparation for or in response to emergencies. Obligations under this requirement shall only arise when one or more of the criteria in FAR 18.001 are met, enabling NASA to utilize "*Emergency Acquisition Flexibilities*." If the CO determines that the emergency preparedness and response requirements result in changes to the contract, all contract adjustments will be processed in accordance with the changes clause of this contract.

### Emergency Preparedness

1. The Contractor shall designate a single point of contact that supports SSC and MAF with all emergency preparedness planning and implementation as well as interfaces with the SSC and MAF NASA Emergency Director/Managers or other appointed officials.
2. The Contractor shall provide a response capability that can communicate and support any declared emergency, Presidential Declaration of Disaster or an Incident of National Significance in accordance with NPR 8715.2A, *NASA Procedural Requirements Emergency Preparedness*.
3. The Contractor shall participate in the operational process verification reviews of existing plans to ensure the *Emergency Management Plans* (EMP) (SSC SPLN-1040-0006; MAF IMSC-Plan-003D) and any other emergency plans adequately address evacuations, sheltering, post-disaster response and recovery, deployment of resources, interoperable communications, and warning systems.

### Continuity of Operations

The Contractor shall provide and maintain laboratory services to support both SSC and MAF Continuity of Operations Plan (COOP) in accordance with SPLN-1040-0006, *SSC Emergency Management Plan* and AS60-OI-012, *MAF COOP*. When the Contractor is providing support in a post emergency timeframe, the activities related to the emergency shall be authorized on an IDIQ basis. All other COOP activities will be considered Core service operations.

The Contractor shall:

1. Support the development and implementation of an appropriate COOP at the locations identified in the COOPs.
2. Provide a high level of readiness that in the event of a declared emergency that can accomplish the following:
  - a. Implementation with and without warning.
  - b. Achieving operational status within four (4) hours of activations.
  - c. Maintaining sustained mission essential operations for a minimum of thirty (30) days.
  - d. Utilizing existing and available field infrastructure where practical.
  - e. Assuring the continued operation of identified mission essential infrastructure and operations.

### **1.1.5 Staffing and Training**

The Contractor shall provide adequate staffing levels with the required training and development to maintain core competencies, enhance performance, and advance capabilities to meet contract requirements. The Contractor shall also develop testing associated with training courses that require testing. The Contractor shall ensure applicable training is compliant with all sections of the PWS. The Contractor shall also provide such training to NASA, NASA contractors, users/tenants, and visitors as applicable to meet contract requirements. When training requested is not within the scope of contract requirements, it will be conducted on an IDIQ basis.

The Contractor shall use the NASA-provided automated system to record training provided and certifications. The Contractor shall determine the frequency of training required to ensure personnel certifications and recurrent training are kept current for employees. The training may consist of Government-furnished or Contractor-developed training materials; however, the training materials may be audited by the COR.

The Contractor shall be responsible for all expenses associated with training to include, but not limited to state fees, license fees, certification fees, and transportation and lodging fees. The Contractor shall ensure all contract employees take the following required training (within 30 days of employment):

Sensitive But Unclassified Awareness Training, IT Security, New Employee Safety and Health Orientation Training, Area Access training (only for employees needing access to the test complex), Asbestos in the Workplace, Electrical Safety Awareness, SSC Hazard Communications for Office Workers and SSC Office Ergonomics.

## **1.2 Technical Management**

The Contractor shall provide technical management for the integration of PWS functions and activities.

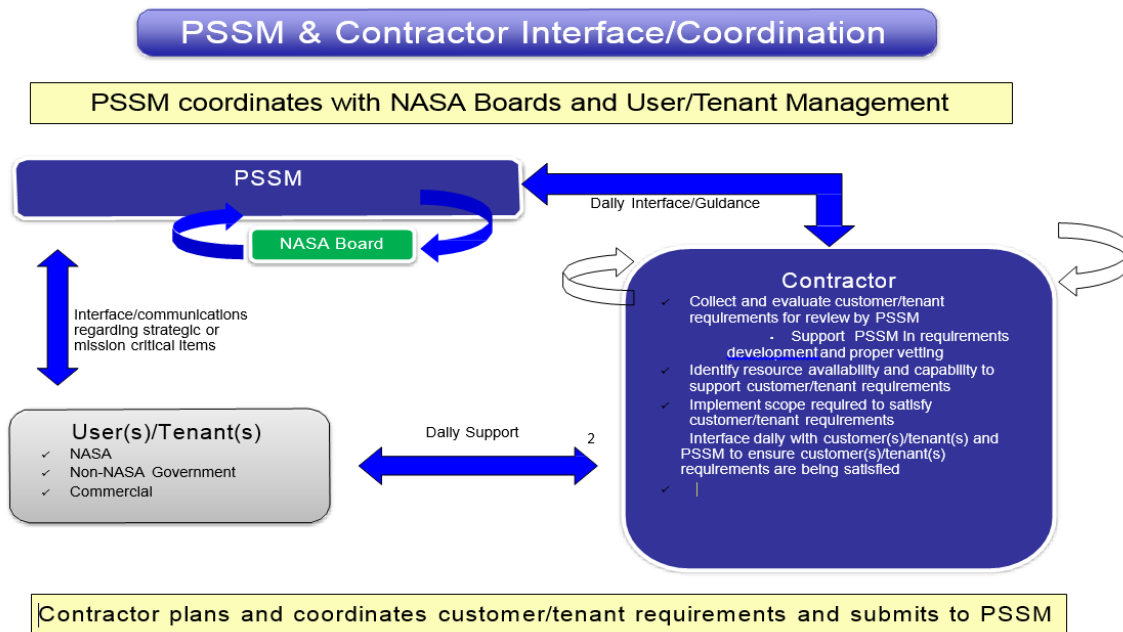
The Contractor shall perform production support and task order formulation functions for all work within this contract to include all IDIQ/task order work.

Lower level, or task specific performance requirements are assigned through the NASA task order system to identify the performance requirements, completion schedules, funding reference, and not to exceed cost limits.

### **1.2.1 Production Support (MAF only)**

NASA has a single point of contact for MAF customers/tenants provided through the SACOM Contractor to interface between NASA Productions Support Systems Managers (PSSMs) and customers/tenants as described in the figure below. The Contractor shall use this process to receive tenant requirements for laboratory services, either through the IDIQ task order or lower level work requests in performance of that task order, as well as support and perform project formulation and cost estimating as described in the following sections of the PWS.





## 1.2.2 Task Order Formulation

Task order formulation represents minimum actions that must occur to support decision making prior to task implementation. A task order initiation activates project formulation. The Contractor shall provide formulation assistance prior to actual project implementation. The Contractor shall provide preliminary information during formulation that consists of the following:

1. Assist with refining requirements
2. Evaluating technical considerations including design for this PWS
3. Preparing Rough Order of Magnitude (ROM) estimates  
*NOTE: For initial IDIQ task order process cost estimation, the Contractor shall refer to Task Order Procedures (NFS 852.216-80)*
4. Develop supporting documentation to include but not limited to, presentation data, briefing charts, and/or risk-based analysis, etc.

## 1.3 Business Management

The Contractor shall perform resources and financial management, work control, and scheduling for the integration of PWS functions and activities.

### 1.3.1 Resources and Financial Management

The Contractor shall employ sound financial management practices and systems while utilizing flexible and innovative procedures to maximum extent practical to ensure compliance with Government cost charging and reporting requirements. The Contractor shall operate within the contract value and each individual Task Order Basis of Estimate amount. The Contractor shall be responsible for providing financial services that comply with the NASA financial systems requirements outlined below to satisfy applicable reporting requirements.

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The Contractor's system shall interface with NASA financial systems to provide financial reports to comply with the NASA's financial reporting requirements. Cost shall be distributed based on the functional definition specified in the latest version of NPR 9501.2. The Contractor shall provide a monthly accrual based on these reporting requirements. The accrual calendar shall coincide with the Contractor's fiscal month calendar and will be accepted as the NASA monthly accounting calendar for accrual purposes. The NASA Office of the Chief Financial Officer must approve the accrual method including any changes. The Contractor's system shall provide cost by customer code, PWS and Center (MAF or SSC) by Core and individual Task Orders. The Contractor's system shall provide workforce data by work year equivalent and hours at the same level as cost is reported.

The detailed cost shall be provided monthly for inclusion in NASA's financial systems in an electronic flat file format.

The Contractor shall conduct a monthly financial resources review (reference PC04) as directed by the CO to provide insight into financial performance and utilization of resources.

These reviews shall include, but are not limited to the following data:

1. Government Fiscal Year (GFY) phased financial plan – both rate and cumulative for Core and each IDIQ task requirement by Center, Customer Code, and PWS level 3 (level 2 when applicable). Firm Fixed Price elements can be reported at level 2.
2. Work Year Equivalent with associated hours by PWS for Core and each IDIQ task requirement
3. Actual cost and accrued cost for each plan provided in 1 above
4. Projected GFY End of Year (EOY) estimate and data trending analysis
5. Baseline adjustment analysis
6. Variance analysis
7. Contract Year comparison to GFY (Total contract level and by PWS)
8. Contract value analysis and trending

The Contractor shall provide bi-annual reviews of the indirect cost structure including the basis of allocation.

The Contractor shall support requests for development of the government fiscal financial operating budget and other special budget exercises as required.

### **1.3.2 Work Control Management**

The Contractor shall establish, implement, and utilize an integrated work control approach to create, schedule, approve, document, track and monitor all Core and IDIQ requirements from inception to close-out.

The Contractor shall:

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1. Develop and maintain a work control process.
2. Possess the ability to estimate value of requested requirement, establish and utilize a control process for service request funding limitation notification to ensure customer funding is not exceeded for service request cost estimate or cost(s).
3. Plan and schedule requests to ensure resources are available to efficiently complete work requirements:
  - a. Within the specified or negotiated time limits/schedule
  - b. Within established performance standards
  - c. With minimal disruptions to the customer(s)
4. Develop, implement, and maintain operational procedures for the customer interface(s) to provide accurate, timely, professional responses to requests, and to permit tracking of work in progress.
5. Identify schedule conflicts and work with affected customers/tenants to identify alternatives and/or seek resolution. If schedule conflicts involve work to be performed for itself or its affiliate, and/or if resolution is not achieved, the Contractor shall notify the COR and/or the CO. For the purposes of this requirement, the term “affiliate” shall include, but not be limited to, all members of Joint Ventures and their respective affiliates.
6. The Contractor shall schedule work for all customers in the order it is received. If a request for priority is made, the Contractor will assign priority unless a priority decision is required for work for itself or its affiliate. If a priority decision is required for work for itself or its affiliate, the Contractor shall elevate to the CO and COR for disposition. For the purposes of this requirement, the term “affiliate” shall include, but not be limited to, all members of Joint Ventures and their respective affiliates.
7. Develop, maintain, and make accessible to customers/tenants a Customers Guide of services to describe the full range of capabilities and services offered by the Contractor. The Customer Guide shall include, but not limited to:
  - a. Service and system descriptions
  - b. Operating characteristics
  - c. Operator certifications
  - d. Method by which customer feedback is collected and assessed

### **1.4 Business Development**

The Contractor shall provide cost effective, timely, and efficient support for new mission development services to enable the accomplishment of the various roles and missions of the center.

## **2.0 LOGISTICS AND PROPERTY MANAGEMENT**

The Contractor employees shall ensure that all services protect the integrity of the Government’s interest and that accountability of NASA real & personal property is accurately reported to the Center Supply and Equipment Management Officer (SEMO) or designated Representative.

The Contractor shall comply with all applicable regulations, policies, and procedures including the GSA

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*Federal Management Regulation, 41 CFR 101, et seq.*, all 4000 series NPRs/NPDs, and the applicable documents listed in Attachment 7, Reference Library.

The Contractor shall utilize the NASA Property Disposal Management System (DSPL) for the disposal of all NASA property.

### **2.1 Logistics Scope**

Logistics services outlined in this section include receiving operations, packaging and shipping operations, and transportation specifically for laboratory services.

The contractor shall ensure the pickup, delivery, loading, transporting, and unloading of items between and within MAF or SSC in a cost effective, timely and efficient manner. The contractor shall properly schedule and coordinate all courier service requests with customers. Daily routine courier services between SSC and MAF may be required. The contractor shall ensure proper control, protection, preservation, and disposition of move assets. The contractor may use the transportation, moving and hauling systems that NASA has established through its support contracts.

#### **2.1.1 Receiving and Inspection**

##### **Scope**

Receiving operations includes the identification of controlled equipment and subsequent tagging, processing of non-stock receipts for laboratory operations.

##### **Requirements**

1. The MAF or SSC Industrial Hygiene (IH) organization shall approve all hazardous materials prior to receipt and in accordance with established procedures.
2. All receiving and inspection shall be conducted according to NPR 1600.1, *NASA Security Program Procedural Requirements* and SPR 1600.1, *Security Requirements Handbook*.
3. The Contractor shall be responsible for inspection and tracking of their item/hardware at their assigned storage location.

#### **2.1.2 Transportation and Moving**

The contractor shall verify there is a valid work request that authorizes the transportation of equipment/materials being sent for analysis, calibration, test, investigation etc., between and within MAF or SSC.

### **2.2 Property Management**

The Contractor shall use the property management system that NASA has established through its support contracts.

The Contractor shall be responsible for the accountability, tracking, operation, and maintenance, of all assigned property in accordance with the SSC and MAF Property Management System as defined as their property use function. The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, *Installation-Accountable Government Property (IAGP)*. They are further defined in the following property

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management directives and installation supplements to these directives.

Series 4100, *NASA Materials Inventory Management Manual*

Series 4200, *NASA Equipment Management Manual*

Series 4200.2, *NASA Equipment Management System (NEMS) User's Guide for Property Custodians*

Series 4300, *NASA Personal Property Disposal*

In accordance with the clause at 1852.245-71, *Installation-Accountable Government Property*, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the MAF and SSC installations which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the CO.

(a) Office space, work area space, utilities, desktop or laptop computers, telecommunications, network connectivity, and related IT services required in the performance of services covered by this Contract. Government telephones are available for official purposes only; contractor employees must make other arrangements for unofficial calls.

(b) General- and special-purpose equipment, including office furniture.

(c) Vehicles will not be provided by the Government for performance of this contract.

### **2.2.1 Supply and Material**

The Contractor shall provide all necessary materials to operate the SSC and MAF laboratories and fully meet the requirements of technical performance, precision, traceability, timeliness, safety, and quality as further defined in this PWS.

Specific Government Furnished Equipment (GFE) identified by federal stock class is provided as identified on As-Is, List 2. The contractor shall determine the need to use this equipment in the performance of this contract. The Government will not authorize the repair or replacement of any GFE provided As-Is. If the contractor determines the equipment provided As-Is requires repair or replacement it will be at no cost to the Government. All equipment replaced by the contractor remains the property of the contractor.

The contractor shall be responsible for the routine operations and minor maintenance cost of all equipment on List 1, to ensure its availability to perform at all times. Routine operations and minor maintenance costs are defined as onetime costs less than \$1,000 per item per occurrence.

The maintenance and replacement of GFE as identified on List 1 shall be determined by CO or designee, and not the responsibility of the contractor.

## **3.0 SAFETY, HEALTH, AND ENVIRONMENTAL**

### **Description**

NASA is strongly committed to the safety and health of the workforce, teamwork, and integrity between organizations in order to achieve mission success. Safety requirements are a part of the occupational and

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environmental health of personnel and activities. NASA's commitment is achieved by the following Safety, Health, and Environmental (SHE) critical elements:

1. Management leadership and employee involvement
2. System and worksite analysis
3. Hazard prevention and control
4. Safety, health, environmental training
5. Environmental compliance

These elements allow for the establishment of a highly skilled, diverse, and motivated workforce committed to achieving mission success. The NASA management team is committed to preventing human injury and ensuring the safety of all operations and products; the Contractor is expected to support these endeavors and demonstrate the same commitment. This section includes requirements for crosscutting activities that provide the foundation for the success of a SHE program.

### **SMA Technical Authority (TA)**

The NASA SMA Directorate is the office of primary responsibility for the implementation and conduct of SMA TA across NASA. The SMA TA resides in an SMA organization, is matrixed to support the program or project, and coordinates the SMA activities. Contractor workforce individuals will exercise technical consciousness by raising technical issues that have safety implications to their direct supervision and to the designated project/systems technical authorities.

All SSC/MAF/MSFC NASA organizations, including supporting contractors, are expected to support this technical authority model.

### **General Requirements**

The Contractor shall establish, implement, and administer a SHE program consisting of an industrial safety, occupational health, and environmental program that (1) prevents employee fatalities, (2) reduces the number of incidents, (3) reduces the severity of employee injuries and illnesses, and (4) protects the environment, through the ongoing planning, implementation, integration and management control of these programs in accordance with DRD SA03, *Safety and Health Plan*. The Contractor's *Safety and Health Plan* shall address each of the SHE critical elements in detail that is applicable to the contracted effort.

The SHE Program shall be implemented, operated, and maintained in accordance and consistent with the SHE requirements as referenced in Attachment 7, Reference Library.

The Contractor shall perform an annual SHE self-assessment of the Contractor's SHE Program in accordance with DRD SA04, *Contractor Safety and Environmental Health Program Annual Self-Assessment Report*.

### **MAF only**

The Contractor shall coordinate with the NASA MAF Office of S&MA, who will provide independent surveillance of the Contractor/affiliate user/tenant. For the purposes of this requirement, the term "affiliate" shall include, but not be limited to, all members of Joint Ventures and their respective affiliates.

**Note:** NASA will be responsible for conducting independent surveillance, assessments, evaluations, and inspections to verify MAFs SHE Program's continual compliance in accordance with 29 CFR 1960.26 and

NPR 8715.1.

### **3.1 Safety and Risk Management**

#### **Scope**

The Contractor shall assess operations to identify hazardous conditions and control methods to minimize the level of risk directly or indirectly related to performing an operation or operating a facility and ensure the residual risks identified during the assessment are accepted by the appropriate level of management based on the overall level of risk classification assigned the facility or operation prior to the actual startup or restart of the facility or operation.

#### **Limitations, Restrictions, and/or Special Conditions**

At SSC, the Contractor shall provide a Safety Program that is STAR-certified by the Occupational Safety and Health Agency's (OSHA) Voluntary Protection Program (VPP) within eighteen (18) months after contract award. At MAF, the Contractor shall be compliant with OSHA VPP requirements within eighteen (18) months after contract award.

#### **General Requirements**

The Contractor shall ensure all their employees are knowledgeable of, and comply with, all appropriate safety requirements, including personnel certifications and training as described in PWS Section 1.1.5. The Contractor shall promote safety awareness throughout all aspects of Contract performance. The Contractor shall encourage all employees located onsite to report hazardous conditions and/or situations which, if not corrected, have the potential to result in an injury to personnel or damage to equipment/property in accordance with SCWI-8715-0016, *SSC Close Call Reporting System (CCRS)* and MWI 8715.13, *Safety Concerns and Reporting System (SCRS)*.

The Contractor shall ensure safety risks are managed through the systematic identification, assessment, and control of hazards and their associated risks. The Contractor shall develop a Risk Management Plan and Report as part of the requirements of DRD SA03, *Safety and Health Plan*. At SSC, the Contractor shall identify, capture, manage, and communicate risks to NASA using the NASA provided *Integrated Risk Management Application (IRMA)* database in accordance with SPR 7120.1, *SSC Risk Management Procedural Requirements*.

The Contractor shall use the NASA provided *NASA Mishap Information System (NMIS)* to record and track to closure all close calls and mishaps in accordance with DRD SA02, *Mishap Report*. The Contractor shall conduct and provide support for close calls and mishap investigations, including any required follow-up to safety technical issues in accordance with NPR 8621.1, *NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping*, MWI 8621.1, *Close Call and Mishap Reporting and Investigation Program*, and SPLN-8621-0003, *Mishap Preparedness and Contingency Plan*. The Contractor shall report mishap and safety statistical information in accordance with DRD SA01, *Safety Statistics Reports*.

### **3.2 Quality Assurance and Reliability**

#### **Scope**

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The Contractor shall provide a Quality Management System consistent with the American National Standards Institute (ANSI) American Society for Quality (ASQ) ANSI/ISO/ASQ9001, *Quality Management Systems Requirements* and AS 9100 SAE9100, *Quality Management Systems – Aerospace – Requirements*. This shall be done in accordance with NPD 1280.1, *NASA Integrated Management System Policy*, NPD 8730.5, *NASA Quality Assurance Program Policy*, MPD 1280.1, *Marshall Quality Management System Manual*, and SPD 1280.1, *SSC Management System Policy*.

### **General Requirements**

The Contractor shall submit a *Quality Assurance Management Plan (QAMP)* in accordance with DRD RA01 that specifies the Contractor's approach to assuring delivery of quality products, material and services. The Plan shall also include specific methods and processes the Contractor will implement to avoid compromising configuration of NASA project flight hardware production tooling or associated systems when working on or adjacent to same. The Contractor shall also submit a *QAMP Quarterly Report* in accordance with DRD RA02.

For SSC only, the Contractor shall provide Software Assurance and Software Safety support for all Contractor developed/acquired/modified/utilized software per SPR 8739.1, *SSC Software Assurance Procedural Requirements*. For MAF, all software development shall be in compliance with MPR 7150.1, *Software Engineering Requirements*. Any software developed or modified at SSC, to be released outside of SSC, shall follow NPR 2210.1, *Release of NASA Software*.

All specified work items, including, but not limited to, checkpoints, servicing, repairs, and reporting, shall be performed completely, correctly, and neatly in a safe manner that also eliminates the need for rework. Lack of required parts, other materials, or staffing shall not be an acceptable cause for nonperformance of scheduled work. The Contractor shall prevent debris from accumulating in the area or from spreading to adjacent areas during performance of work. All such debris, excess material and parts shall be removed upon completion of work or at the end of each workday, whichever occurs first.

The Contractor shall participate in the Government Industry Data Exchange Program (GIDEP) and NASA Advisory Program in accordance with NPR 8735.1, *Procedures for Exchanging Parts, Materials, Software, and Safety Problem Data Utilizing the GIDEP and NASA Advisories* and SWI-8735-0001, *GIDEP/NASA Alerts Implementation*.

The Contractor shall manage the activities related to nonconforming products and services in accordance with SPR 8730.1, *Control of Nonconforming Product*.

### **3.3 Environmental Health**

#### **3.3.1 Industrial Hygiene**

##### **Scope**

The Contractor shall implement and maintain an Industrial Hygiene (IH) Program. IH is the art and science dedicated to the anticipation, recognition, evaluation, communication and control of environmental stressors in, or arising from, the workplace that may result in injury, illness, or impairment, or otherwise affect the well-being of workers and members of the community.

##### **General Requirements**



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The Contractor shall continuously review, implement, and comply with all Federal regulations, standards, and requirements pertinent to workplace hazards. In the event of conflicting standards or regulations, the most protective shall be met.

### **3.3.2 Health Physics**

The Contractor shall implement and maintain a Health Physics Program.

### **3.4 Contamination and Foreign Object Debris Program (MAF Only)**

MAF has an overall integrated facility Contamination and Foreign Object Debris (FOD) Program. The Contamination/FOD Program contains clearly defined user(s)/tenant(s) roles and responsibilities for dealing with contamination and FOD control related items, if applicable. The Contractor shall be required to participate in this program as required in the performance of this PWS and as requested by user(s)/tenant(s) IDIQ task orders in accordance with AS60-OI-031, *MAF Foreign Object Debris and Contamination Control Program*.

## **4.0 LABORATORY SERVICES**

The Contractor shall provide basic and applied laboratory and metrology services, including the major disciplines of and related specialized services necessary to meet Core and IDIQ requirements to support NASA missions and programs, and the requirements of the SSC and MAF resident agencies and commercial tenants. The Contractor shall provide a complete range of services required by this PWS including special studies, fabrication and modification of instrumentation and equipment/systems, calibration, testing and evaluation, field services, and geospatial information.

The contractor shall provide all necessary materials, technical services and operate the following laboratories located at SSC and MAF to fully meet the requirements as defined in this PWS and specific task orders:

- SSC Measurements Standards and Calibration Laboratory (MS&CL)
- SSC Gas and Material Science Laboratory (GMSL)
- SSC Environmental (ENV) Laboratory
- SSC Institutional Geographic Information System (SIGIS) Laboratory
- MAF Metrology Laboratory
- MAF Test Services Laboratory

The contractor may use these physical laboratories separately or in combination.

All MAF lab services will be IDIQ except lab management and the calibration of the facility equipment.

### **Engineering Technical Authority**

The NASA Office of the Chief Engineer (OCE) is the office of primary responsibility for the implementation and conduct of Engineering Technical Authority (ETA) across NASA.

The ETA resides in an engineering organization, is matrixed to support the program or project, and coordinates the engineering activities, including discipline engineers as required. Within this section ETA “Insight/Oversight” will be the responsibility of the NASA Engineering organizations supporting the NASA Space Flight Program/Projects that plan to or currently use MAF and/or SSC’s capabilities.

All SSC/MAF/MSFC NASA organizations, including supporting contractors, are expected to support this technical authority model.

The Contractor shall exercise technical conscience by raising technical issues that have safety implications to their direct supervision and further to the designated project customer and/or systems technical authorities, where applicable, per SPLN-1200-002, *SSC Engineering Technical Authority (TAA) Implementation Plan* and/or IMSC-Plan-006, *MAF Technical Authority Process*.

#### **4.1 Laboratory General Services**

The Contractor shall use processes and systems for work control, sample control, equipment control, document and data control, reporting, and production and work response as specified in this PWS.

The contractor shall verify test sample and equipment documentation received prior to testing to ensure that the information is complete and accurate.

Engineering analyses shall be performed for the areas specified in this PWS and any work request developed including analysis of test setups, test procedures, and data generated by the testing operations. Engineering analyses shall be provided that ensure test data is generated using approved organizational instructions, and the data is either consistent with previous test data or valid explanations exist why anomalies have occurred. Test data shall be validated to ensure correlation with test data generated by other sources. The contractor shall notify the test requestor any test data that cannot be validated or correlated with test data from other sources.

#### **4.2 Metrology Assurance**

The contractor shall provide a wide range of metrology services to support metrology and calibration activities. The contractor shall assist NASA in ensuring the metrology and calibration program at the MAF & SSC locations remain capable to support the diverse government and non-government tenant customer base and provides the most technically advanced and properly applied measurement concepts. The contractor shall evaluate, select, and apply engineering concepts, scientific techniques, procedures, methodologies and criteria to measurement and/or calibration responsibilities of both locations MAF Metrology Laboratory and SSC Measurement Standards & Calibration Laboratories (MS&CL).

Other activities performed by metrology services include:

- Provide measurement quality oversight
- Ensure forward and reverse traceability for all measurements to appropriate standards
- Provide Measurement Process Analysis as needed
- Prepare engineering studies and reports
- Support and participate in the NASA Metrology and Calibration Working Group (MCWG), including two annual meetings held at various locations
- Maintain a metrology management system (Government provided systems are available) for both sites including past database history. The contractor may combine the two systems.
  - SSC currently uses the Stennis Metrology Management System (SMMS)
  - MAF currently uses Fluke MET/TRACK Metrology Management System (MMS)

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- Implement NASA metrology policy per NPD 8730.1, *NASA Metrology and Calibration* as directed through MAF and SSC requirement documents, MPR 8730.5 and SPR 8730.4
- Provide automated calibration interval system that complies with ANSI Z540.3-2006
- Adopt Transducer Electronic Data Sheets (TEDS) as described by IEEE 1451 Standards for transferring of current Calibration Maintenance Data Report (CMDR) from the physical calibrated sensor(s) to the test facilities' data acquisition systems (SSC only)
- Provide electronic copies of Calibration Maintenance Reports (CMR) with accompanying CMDRs to allow electronic storage & retrieval
- Assist government and non-government customers in special, highly technical, or unique measurements
- Serve as the primary laboratory Measurement Assurance Program (MAP) technical lead
- Serve as a NASA technical resource by remaining current in the newest calibration/measurement theories, equipment, methodologies, research, and specifications
- Solve calibration/measurement problems and questions from the laboratory technical staff, government and non-government tenants, and other customers
- Research, evaluate, and implement improvements in laboratory measurement processes
- Calculate total measurement system accuracy/uncertainty by determining and properly combining system component accuracies/uncertainties
- Use mathematical skills/statistical techniques to calculate measurement uncertainties and develop/improve measurement processes or solve measurement process problems
- Calculate reliability of standards and field instruments
- Provide a quality calibration service with documentation of records and objective compliance to NPD 8730.1 and ISO9001.
- Assist in directing and maintaining the metrology laboratory policies, procedures, instructions, and plans of the calibration program.
- Maintain all SSC calibration records as the SSC Office of Primary Responsibility in accordance with SPR 1440.1 and other NASA directed retention schedules.
- Maintain all MAF calibration records as the MAF Office of Primary Responsibility in accordance with MPR 1440.2 and other NASA directed retention schedules.

#### **4.3 Measurement Standards and Calibration Laboratory**

The contractor shall provide all personnel, supervision and other items and services necessary to manage, test, calibrate, modify, certify and perform Measurement Standards and Calibration Laboratory services on Inspection, Measurement and Test Equipment (IM&TE). Services shall be provided for SSC and MAF Government and Non-Government tenants and other off-site activities as specified and approved by NASA. Off-site work shall be approved by the CO.

The Contractor shall provide calibration services to support a full range of measurement equipment and instrumentation. The contractor shall provide in-place calibration for items embedded in systems too large to move, or whose accuracy would be affected by movement after calibration. The Contractor shall perform acceptance testing of new measurement equipment and systems internal to the calibration laboratory. The Contractor shall provide certification of traceability of all SSC and MAF reference standards to the National Institute of Standards and Technology (NIST). The Contractor shall provide cleaning and certification services for measuring devices and control elements to be used in clean fluid systems. Cleaning shall be performed in accordance with RPTSTD-8070-0001, *Surface Cleanliness Standard of Fluid Systems for Rocket Engine Test Facilities of the NASA Rocket Propulsion Test Program* and other applicable standards. At MAF, cleaning shall be performed in accordance with MSFC-SPEC-164, *Specification for Cleanliness of Components for Use in Oxygen, Fuel, and Pneumatic Systems*.

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The Contractor shall provide cleaning and certification for measuring devices, control elements and components/equipment, in support of calibration. The Contractor shall maintain inventory and history of calibration records and maintenance of a calibration recall system.

The contractor shall maintain reference standards traceable to NIST that are used to repair, calibrate and certify working standards requiring calibration. The contractor shall maintain and use calibration certificates supplied with these standards. The contractor shall maintain certified working and transfer standards for the following disciplines:

A. Mass	G. Capacitance	M. Conductivity
B. Length	H. Inductance	N. Acceleration
C. Time	I. Strain	O. Optics
D. Voltage	J. Temperature	P. Wind Speed
E. Resistance	K. Liquid & Gas Flow	Q. Ionizing Radiation
F. Pressure	L. Luminous Intensity	R. Acoustics

The contractor shall assure that GFE is maintained in a serviceable condition in accordance with applicable Manufacturer's Specifications and approved Calibration Procedures.

Calibration shall be accomplished in accordance with approved procedures. In the event calibration cannot be completed due to a malfunction within the end item, the contractor shall accomplish repair in accordance with this PWS. The contractor shall accomplish all maintenance procedures in accordance with equipment operating manuals or manufacturer's recommendations.

Any calibration limitation shall be approved by the equipment owner and/or calibration manager. The calibration limitation shall be clearly annotated with the parameter being limited and any other information pertinent to the accuracy of the item. If the request is for "*Limited Calibration*", the CMR shall annotate the certified parameters and the accuracy of the calibration.

The contractor shall be responsible for notifying the COR, verifying and authorizing qualified vendor repair and/or calibration for items that cannot be supported at SSC and MAF. The contractor shall meet all applicable NASA policies and directives for the calibration of IM&TE. When the IM&TE is returned to SSC or MAF, the contractor shall perform an acceptance inspection in accordance with applicable procedures and Quality documents.

Historical workload performed and estimated future requirements are included in Appendix A. Workload deliveries are a mixture of Routine (2-3 weeks), Special (less than 2 weeks, and Expedite (3 days or less). Historically routine work has consisted of 70%, special consisted of 20% and Expedite consisted of 10% of the effort for measurement standards and calibration.

### 4.4 Gas and Material Analysis Services

The SSC GMSL and MAF Test Services Laboratory provides laboratory and applied technology development services for government and non-government tenant manufacturing & fabrication operations, and rocket propulsion test initiatives. These labs perform analytical testing designed to better understand, improve, and verify fluid systems capabilities, manufacturing processes and materials used in propulsion and vehicle systems to ensure safety and performance during static testing and flight.

To fulfill this mission, the contractor provides consulting and scientific support to a wide variety of customers, performs standard and nonstandard lab and field tests, and manages a wide range of research and development projects. A multidisciplinary staff with diverse technical skills is required to resolve a wide array of problems. Efforts in technology development are expended in a wide variety of areas including developing common cleaning standards for NASA, eliminating ozone depleting chemicals, development of traceable gas standards for the aerospace community, evaluating contamination transfer potentials for aerospace process materials, plume analysis of exhaust gasses, the impact of gaseous impurities on specific impulse and thrust performance, material compatibility studies, and analytical method development.

The contractor shall provide laboratory support for government and non-government manufacturing and fabrication. Laboratory operations include analytical chemistry laboratory services, metallography services and mechanical test services, each of which resides in separate locations.

The MAF Test Services Laboratory performs standardized and experimental testing on various materials, including metals, non-metals, foams, composites, fluids and etc., using mechanical testing, metallographic, and gas and material analysis (chemical) testing functions. In addition, to support mechanical testing functions, electrical testing and data acquisition is performed. All tests are performed in accordance with American Society for Testing and Materials (ASTM) standards and customer requirements. The testing is conducted in accordance to strict safety and environmental requirements, ensuring safety of materials, equipment and personnel. Testing may be performed at various temperature ranges. The temperature can range from cryogenic (-450F) to elevated (+600F) degrees in a controlled environmental chamber.

The Contractor shall provide support methods and analysis for materials, chemical and gases. All testing and analysis shall be performed in accordance with approved NASA procedures and National Standards, including MSFC-STD-3535, MIL-PRF-27401, ASTM D 664-04, OSHA requirements for Grade D Breathing Air, RPTSTD-8070-0001, Drawing 11000-G001, and other customer standards as requested. Major responsibilities shall include: material identification, material property testing and evaluation, metallurgical evaluation, gas and liquid analysis (including cryogenic), and contamination evaluation.

Trend analyses shall be provided for gaseous commodities and contamination in all SSC and MAF propellant and pressurant systems. Lab analysis data is combined with prior events and predictive/statistical techniques to maintain process control and knowledge history. Leadership and support shall be provided to the agency wide Gas Metrology Protocol Initiative; special analytical research and development support when requested; as well as data reduction and analysis services to the NASA customer. The contractor shall support NASA incident investigations when requested and the flight implications leading to a performance prediction process.

Gas analysis is an integral part of propulsion test and manufacturing processes activities. The contractor is responsible for maintaining all gases used for commodity analysis. This includes the cross verification and traceability of all calibration gases used in the performance of analytical requests. The contractor shall provide determination of contaminants and impurities routinely as required for receiving inspection of gaseous and cryogenic commodities. Contractor shall provide analysis for verifying the purity requirements at user interface points, assessing contamination from the transfer of propellants and pressurants, and gas system integrity following field maintenance activities. The contractor shall provide required analyses to verify the cleanliness level (Nonvolatile Residue (NVR) and particulate analysis) of components, clean rooms, and hardware used in contamination sensitive systems throughout the sites. The contractor shall provide services

on a scheduled and nonscheduled basis.

The contractor is responsible for inventory and maintenance on all samplers, including supplies and fittings, which are used to collect samples by their customers. (i.e., Hoke samplers, millipore samplers, condensable hydrocarbon samplers, melon samplers, Cosmodyne samplers, cryogenic Dewar samplers, hydraulic oil sample bottles, clean room swabs, clean room gloves, clean room wipes, bench stock, fittings, and general laboratory supply inventory). The contractor shall provide size and count particulate material that contaminates fluid and gaseous systems.

The contractor shall provide analytical expertise of root cause determination with respect to manufacturing, propulsion test hardware and gas systems. Resolution support and technical problem solving utilizing data generated within the laboratory is required. The Contractor shall develop recommendations to prevent reoccurrence and integrate manufacturing and/or propulsion related issue resolutions to system level analytical services.

Contractor analysis expertise includes evaluation of hardware failures, manufacturing process problems, evaluation of life cycle test failures, defect detection, contamination analysis, corrosion and environmental effects, and product design review. Failure analysis reports must provide a clear picture of the root cause, and include recommendations to avoid future failures - from hardware design, through material selection and processing. Failure investigations include, but are not limited to, mechanical testing, metallurgical evaluation, fracture evaluation, failure mode determination, fatigue, fractography, ductile/brittle failures, chemical attack, stress corrosion cracking, contamination and corrosion analysis, particle analysis and identification, filter residue analysis, process and manufacturing problem analysis, root cause analysis, research & development, and material selection, processing and design recommendations.

The tasks shall be performed using methods of chemical, mechanical, and gas analysis and other specialized techniques such as:

- X Ray Fluorescence Spectrometry
- Dispersive Infrared Spectroscopy
- Automated gas chromatography
- Thermoelectric testing
- Coulometric moisture analysis
- Paramagnetic oxygen analysis
- Inductive coupled plasma spectrometry
- Fourier Transform Infrared (FTIR) Spectrophotometry
- FTIR microscopy and attenuated total reflectance
- FTIR photoacoustic spectroscopy
- FTIR transmission gas analysis
- Scanning Electron Microscopy (SEM): Includes Energy-Dispersive Spectrometry (EDS) and Wavelength-Dispersive Spectrometry (WDS) Microanalysis
- Rheology
- Ion chromatography
- Wet chemistry
- Orion Autotitrator
- Class IV flow bench
- Salt fog chamber
- Plating thickness determination

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- X-Ray coating measurement instrument
- Material hardness and conductivity testing
- Mechanical testing systems

Annually the contractor is required to report all chemicals and gases used by the laboratory and required to verify for correctness all of the labs safety data sheets (SDS) pertaining to the inventory. Contractor is required to maintain a radiation license administered by the state of Mississippi and/or Louisiana as needed.

Historical workload performed and estimated future requirements are included in Appendix A.

### 4.5 Environmental Laboratory Services

The Environmental Services Laboratory shall operate in accordance to approved methodology and standards set forth by the OSHA, the National Institute of Occupational Safety and Health (NIOSH), the American Society for Testing and Materials (ASTM), EPA, the Mississippi Department of Environmental Quality (MDEQ), the Louisiana Department of Environmental Quality (LDEQ), Mississippi State Department of Health (MSDH), and Standard Methods for the Examination of Waters and Wastewaters.

All services must be performed in accordance with appropriate methodology in accordance to strict environmental testing requirements set forth in such programs as:

- National Pollution Discharge Elimination System (NPDES),
- Louisiana Pollution Discharge Elimination System (LPDES),
- National Primary Drinking Water Regulations (NPDWR),
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),
- Resource Conservation and Recovery Act (RCRA),
- Safe Drinking Water Act (SDWA),
- American Public Health Association (APHA)
- Toxic Substances Control Act (TSCA).

The laboratory will maintain a *Quality Assurance Program Plan (QAPP)* (DRD RA01) to serve as the operational charter defining the purpose, organizational structure, and operating principals for the drinking water laboratory certification program. The contractor shall maintain the QAPP written in accordance with the *Manual for the Certification of Laboratories Analyzing Drinking Water*, latest edition and to meet 40 CFR part 141, *National Primary Drinking Water Regulations Implementation*; 40 CFR part 142, *National Secondary Drinking Water Standards*; 40 CFR Part 136, *Guidelines Establishing Test Procedures For The Analysis Of Pollutants*.

The Contractor data must meet quality assurance standards, quality control (QA/QC) program following the guidelines established by the US EPA, *Standard Methods for the Examination of Water and Wastewater*; SW-846, *Test Evaluating Solid Waste*; and/or the US EPA Contract Laboratory Program. The contractor must maintain annual drinking water certification requirements per the EPA Drinking Water Certification Program through the MSDH laboratory per Clean Water Act Section 401 (state certification programs), 40 CFR 124.54 or any other certifying state or federal agency. For MAF, all environmental analyses must be conducted by a Louisiana accredited laboratory services provider. Therefore, all certification programs are monitored through that regulating agency and authority is usually granted to the state by the EPA. The scientific methodology used by the contractor certified laboratory must meet the minimum criteria established by the US EPA to include compliance per EPA 2012 Methods Update Rule. The methods and quality control are highly documented and are readily available to the general public, Clean Water Act Section 310-303, 40 CFR Part 131.

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The contractor shall annually analyze Performance Evaluation Test Samples (PETS) or other certification process for certification. The contractor must successfully analyze and achieve certification for 90% of the regulated analyses listed through the various certification programs. The contract shall fully support onsite audits by the certifying agencies. The contractor laboratory will maintain ISO 14001 compliance under the certifications retained by NASA/SSC.

The contractor must maintain microbiological certification through the MSDH and any other state where lab services are performed. The laboratory certification will be to analyze E. Coli and Total Coliform performance test samples on an annual basis.

For SSC, the contractor must perform to Clean Water Act Section 402 (NPDES) 40 CFR Part 122 *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (NPDES)*. NPDES discharge monitoring reports will be delivered to the NASA Environmental Staff signature ready. NPDES performance testing will be completed annually for all permitted analyses. For MAF, the contractor must perform to Louisiana Pollutant Discharge Elimination System (LPDES) under Clean Water Act (CWA) Section 308, for parameters specific to the NASA Michoud Assembly Facility LPDES Discharge Permit. LPDES performance testing will be completed annually for all permitted analyses for MAF per DRD EN07, *LPDES Quality Assurance Study (DMR-QA) Annual Proficiency Testing for MAF*. At both sites, performance testing will be a part of the overall quality program for environmental services. The contractor shall supply hazardous waste services that comply with 40 CFR part 261.24 for toxicity characteristics.

The Contractor shall provide environmental laboratory services inclusive of field sampling to support the NASA/SSC environmental compliance program requirements. These services shall include ecological, chemical, physical, and biological testing and monitoring, as well as interpretation of test results and surveys. The Contractor shall also develop and maintain a master sampling plan and schedule for the sampling requirements for potable water, wastewater and the SSC cleanup program in accordance with the current *SSC Site Microbiological Sample Plan*, current *SSC Long Term Operating Management Plan (LTOMP)*, current *Groundwater Monitoring System Plan for Solid Waste Management*, and current NASA NPDES permit. It is the responsibility of laboratory management to work closely with NASA Environmental Staff to maintain and track the accuracy of the sampling plan. The sample plan is very dynamic and changes per NASA's requirements. All changes shall be tracked and documented. This sample plan (see Attachment 11 as reference) will include all known sampling at SSC including discretionary sampling, NPDES, potable water, ground water monitoring, landfill monitoring, underground storage tank monitoring, CERCLA monitoring including pump and treat facilities at a minimum. EPA method numbers, parameters, frequency and analyte list will be maintained.

The Contractor shall staff scientific professionals to operate and maintain highly technical analytical and other ancillary laboratory equipment such as but not limited to: Atomic Absorption spectrophotometer, Inductively Coupled Plasma spectrophotometer, Total Organic Carbon analyzer, Ion liquid chromatograph, Gas Chromatograph/ Mass spectrometers, Flow injection ion analyzer, Auto samplers, Dissolved Oxygen meters, analytical balances, centrifuges, pH meters and microbiological equipment.

Additionally, the Contractor shall support the NASA Environmental Staff in the development of study protocols for special projects, development of Phase I Environmental Assessments and/or evaluations, provide presentations, provide copies of archived data as necessary, and actively participate in the implementation of the SSC Environmental Management System (EMS) that is based on the ISO 14001 standard. This is inclusive of providing a dedicated EMS Core Team member.



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Contractor shall support and maintain compliance with Emergency Planning and Community Right-to-Know Act (EPCRA) and Superfund Amendments and Reauthorization Act (SARA) Title III: 40 CFR Parts 355 & 370 are mandatory for the contractor. Contractor shall maintain a compilation of Annual Hazardous Material Inventory using the supplied electronic format. Hazard Communication Training Overview, Satellite Accumulation Area Management, knowledge and use of the SSC Corrective Action Database, and Environmental Management Program Plan revisions are all requirements for the contractor. Provide input and environmental representative for risk assessment updates with the Environmental Working Group; support environmental inspections including flammable cabinets, storm-water drains, SDS capabilities, and hazardous material labeling; and support special projects for NASA Environmental Staff as requested. Provide technical consultant for SSC SDS Database and SSC Sustainable Acquisition (Affirmative Procurement) interface with SDS system, previous uses of pesticides at SSC, Research EPA, Department of Transportation (DOT), NFPA and OSHA regulations regarding hazardous materials as required. Contractor shall obtain/maintain a MDEQ Visual Emissions Certification as an air emissions inspector and perform air emissions inspections as required. Contractor shall provide support to the Environmental Emergency Response Team and participate in all requested activities.

For MAF environmental analyses, reporting requirements are defined in DRD EN08, *Environmental Laboratory Reports for MAF*, and its attachment. These analyses will be used by NASA MAF's Environmental Management contractor for conducting required reporting to NASA, Federal and Louisiana environmental agencies.

Historical workload performed and estimated future requirements are included in Appendix A. Workload deliveries for Environmental Laboratory Services are based on EPA regulations.

### **4.6 Stennis Institutional Geographic Information System (SIGIS)**

The Contractor shall provide institutional & environmental geographic information system support that shall be referred to henceforth as the Stennis Institutional Geographic Information System (SIGIS) to conduct tasks inclusive of but not limited to: data collection, data management, data analysis, database administration, cartographic production, web mapping application configuration and development, script development to automate processes and create custom web-based tools, and creating documentation and reports. The specifics are as follows:

#### **SSC Support**

SIGIS shall provide support to the Center Operations Directorate (COD) including the Environmental Staff, the Design and Construction Management Division, and the Center Services, Operations and Maintenance division, Facility Planning and Utilization Division. SIGIS shall collaborate with the Environmental Laboratory to provide spatial visualization and analysis for CERCLA contamination plume and potentiometric map development and maintenance. This action requires regular communication between SIGIS and the lab to maintain, transfer, and map the data to be included in reporting sent to the state. SIGIS shall provide maps and coordinates for environmental permits, plans and documentation update requirements for Environmental Resource Document and the Environmental Justice Plan. SIGIS support for the Design and Construction Management Division shall include ad hoc cartographic products showing current and potential construction projects. To support the Center Services, Facility Planning and Utilization Division, SIGIS shall maintain a web mapping application specific to managing and editing SSC real estate data. Other tasks shall include ad hoc mapping for specific plans, presentations, and documentation including the facility master plan. For all of the divisions in the COD and the other Directorates at SSC, SIGIS shall maintain a site-wide GIS application covering layers from the environmental, facilities, emergency management, and safety disciplines. Direct support may extend to other Directorates and potentially tenants and contractors at SSC as requested.

#### **Principal Center Support**

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SSC is designated the Principal Center for Institutional GIS. SIGIS shall perform the functions stipulated in annual task plans that are approved by NASA Headquarters (NASA HQ). These items generally include maintaining a NASA-wide Institutional GIS Portal, providing initial technical assistance to agency GIS users as part of the Enterprise License Agreement NASA maintains with the software vendor Esri, and performing outreach efforts within the agency including extended assistance to other Center GIS programs. To maintain the NASA-wide Institutional GIS Portal, GIS shall collect and sometimes convert data sets from NASA centers and public sources, capture or connect to disparate data from other NASA databases, discover existing tools as well as develop functionality unique to the agency, and find additional data sources that may be of interest to NASA personnel. To provide initial technical assistance for the agency, SIGIS shall meet all Center Operations roles and responsibilities listed in the Memorandum of Agreement (MoA) between NASA Shared Services Center (NSSC) and COD entitled *Designation of Esri Enterprise License Agreement Roles and Responsibilities*. SIGIS shall help users determine which software products they need; point users to appropriate training options; assist with the license order process, answer technical questions covering installation, authorization, and use of the software; and elevate bugs and technical issues to Esri technical support when necessary. SIGIS shall travel to the annual *Esri International User Conference* to help keep current in the GIS field to better assist NASA GIS users. To perform outreach efforts within the agency, SIGIS shall facilitate the NASA Geospatial Community of Practice and maintain GIS communication methods and forums to provide networking opportunities for agency GIS personnel and assist NASA Center GIS Programs with GIS tasks such as software setup and configuration, web mapping application development, and database integration. SIGIS representative shall travel to other centers and NASA HQ on an as needed basis.

**(END OF SECTION)**

**NNS15530603R, PWS**  
**APPENDIX A**  
**HISTORICAL WORKLOAD AND ESTIMATED FUTURE REQUIREMENTS**

**SUMMARY OF TESTS BY LABORATORY**  
**Historical Data 2010 thru 2014**  
**Future Estimate 2015 thru 2020**

LAB / TEST	Historical	Future Estimate
<b>MS&amp;CL</b>	<b>46,533</b>	<b>56,439</b>
Adjusted	3,683	4,714
Calibrations	28,090	34,367
Data Only	198	247
Functionals	551	992
Off Site Serviced	1,372	1,693
Repairs	5,688	6,913
Cleaning	6,951	7,513
<b>Environmental</b>	<b>66,464</b>	<b>81,377</b>
Environmental	66,464	81,377
<b>G&amp;MSL</b>	<b>15,392</b>	<b>52,298</b>
Air Samples	1,869	2,448
Condensable Hyd	421	551
Contamination Samples - Tier 1	32	39
Contamination Samples - Tier 2	170	187
Failure	77	104
Fuel Samples	154	211
Helium Samples	1,435	2,162
Hydraulic Fluid Samples	449	664
Hydrogen Samples	809	1,073
Nitrogen Samples	2,907	4,142
Non-Volatile Residue	6,434	9,594
Oxygen Samples	535	718
Prepare Etchant/Chemicals	9	19
Prepare Gas Stds for Customer	11	15
Composite Development Fabrication	-	5,115
Failure Analysis	-	3,455
Material Composition	-	2,126
Miscellaneous Testing	-	952
Mechanical Testing	-	11,731
SOFI Application and Testing	-	6,992
Special projects - MRB hours to widgets	80	-
<b>TOTAL</b>	<b>128,389</b>	<b>190,114</b>

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## APPENDIX A HISTORICAL WORKLOAD AND ESTIMATED FUTURE REQUIREMENTS

### SUMMARY OF TESTS BY CENTER

	Source	Events	% of Events				Source	Events	% of Events		
	CORE	95,598	74%				CORE	118,163	62%		
	DEMAND	32,791	26%				DEMAND	71,951	38%		
	TOTAL	128,389	100%				TOTAL	190,114	100%		
LAB / SOURCE / CENTER / TEST	HISTORICAL DATA					ESTIMATED FUTURE REQUIREMENTS					
	CY01 2010 - 2011	CY02 2011 - 2012	CY03 2012 - 2013	CY04 2013 - 2014	Historical Tests	CY01 2015 - 2016	CY02 2016 - 2017	CY03 2017 - 2018	CY04 2018 - 2019	CY05 2019 - 2020	Estimated Future Tests
<b>MS&amp;CL</b>	<b>9,896</b>	<b>14,207</b>	<b>11,494</b>	<b>10,936</b>	<b>46,533</b>	<b>10,226</b>	<b>11,426</b>	<b>11,226</b>	<b>12,335</b>	<b>11,226</b>	<b>56,439</b>
<b>CORE</b>	<b>4,728</b>	<b>5,280</b>	<b>4,623</b>	<b>4,860</b>	<b>19,491</b>	<b>4,827</b>	<b>4,827</b>	<b>4,827</b>	<b>5,185</b>	<b>4,827</b>	<b>24,493</b>
<b>MAF</b>	-	<b>811</b>	<b>673</b>	<b>576</b>	<b>2,060</b>	<b>516</b>	<b>516</b>	<b>516</b>	<b>874</b>	<b>516</b>	<b>2,938</b>
Adjusted	-	8	22	28	58	15	15	15	15	15	75
Calibrations	-	594	468	370	1,432	358	358	358	716	358	2,148
Data Only	-	4	-	4	8	2	2	2	2	2	10
Functionals	-	3	24	12	39	10	10	10	10	10	50
Off Site Serviced	-	181	146	144	471	118	118	118	118	118	590
Repairs	-	21	13	18	52	13	13	13	13	13	65
<b>SSC</b>	<b>4,728</b>	<b>4,469</b>	<b>3,950</b>	<b>4,284</b>	<b>17,431</b>	<b>4,311</b>	<b>4,311</b>	<b>4,311</b>	<b>4,311</b>	<b>4,311</b>	<b>21,555</b>
Adjusted	388	457	439	452	1,736	435	435	435	435	435	2,175
Calibrations	3,185	2,719	2,411	2,588	10,903	2,709	2,709	2,709	2,709	2,709	13,545
Cleaning	724	609	419	451	2,203	527	527	527	527	527	2,635
Data Only	19	19	13	9	60	15	15	15	15	15	75
Functionals	11	5	17	21	54	14	14	14	14	14	70
Off Site Serviced	117	93	116	111	437	104	104	104	104	104	520
Repairs	284	567	535	652	2,038	507	507	507	507	507	2,535
<b>DEMAND</b>	<b>5,168</b>	<b>8,927</b>	<b>6,871</b>	<b>6,076</b>	<b>27,042</b>	<b>5,399</b>	<b>6,599</b>	<b>6,399</b>	<b>7,150</b>	<b>6,399</b>	<b>31,946</b>
<b>MAF</b>	-	<b>2,269</b>	<b>758</b>	<b>633</b>	<b>3,660</b>	<b>915</b>	<b>915</b>	<b>915</b>	<b>1,666</b>	<b>915</b>	<b>5,326</b>
Adjusted	-	25	10	52	87	22	22	22	22	22	110
Calibrations	-	1,915	621	468	3,004	751	751	751	1,502	751	4,506
Data Only	-	-	5	14	19	5	5	5	5	5	25
Functionals	-	2	13	14	29	7	7	7	7	7	35
Off Site Serviced	-	232	80	73	385	96	96	96	96	96	480
Repairs	-	95	29	12	136	34	34	34	34	34	170
<b>SSC</b>	<b>5,168</b>	<b>6,658</b>	<b>6,113</b>	<b>5,443</b>	<b>23,382</b>	<b>4,484</b>	<b>5,684</b>	<b>5,484</b>	<b>5,484</b>	<b>5,484</b>	<b>26,620</b>
Adjusted	275	444	526	557	1,802	364	505	495	495	495	2,354
Calibrations	3,201	3,630	3,153	2,767	12,751	2,429	3,012	2,909	2,909	2,909	14,168
Cleaning	1,266	1,652	967	863	4,748	821	1,054	1,001	1,001	1,001	4,878
Data Only	16	35	15	45	111	29	27	27	27	27	137
Functionals	69	135	145	80	429	139	176	174	174	174	837
Off Site Serviced	23	14	19	23	79	22	21	20	20	20	103
Repairs	318	748	1,288	1,108	3,462	680	889	858	858	858	4,143

## APPENDIX A

### HISTORICAL WORKLOAD AND ESTIMATED FUTURE REQUIREMENTS

## SUMMARY OF TESTS BY CENTER

Environmental Lab	18,414	16,558	16,107	15,385	66,464	16,292	16,292	16,266	16,266	16,261	81,377
CORE	17,996	16,330	15,428	15,241	64,995	15,953	15,953	15,953	15,953	15,953	79,765
MAF	3,159	2,541	2,229	1,652	9,581	2,385	2,385	2,385	2,385	2,385	11,925
Environmental	3,159	2,541	2,229	1,652	9,581	2,385	2,385	2,385	2,385	2,385	11,925
SSC	14,837	13,789	13,199	13,589	55,414	13,568	13,568	13,568	13,568	13,568	67,840
Environmental	14,837	13,789	13,199	13,589	55,414	13,568	13,568	13,568	13,568	13,568	67,840
DEMAND	418	228	679	144	1,469	339	339	313	313	308	1,612
SSC	418	228	679	144	1,469	339	339	313	313	308	1,612
Environmental	418	228	679	144	1,469	339	339	313	313	308	1,612
G&MSL	3,415	3,850	3,656	4,471	15,392	14,070	12,770	8,791	8,516	8,151	52,298
CORE	2,443	2,720	2,551	3,398	11,112	2,781	2,781	2,781	2,781	2,781	13,905
SSC	2,443	2,720	2,551	3,398	11,112	2,781	2,781	2,781	2,781	2,781	13,905
Air Samples	290	299	440	692	1,721	430	430	430	430	430	2,150
Condensible Hyd	87	117	82	117	403	101	101	101	101	101	505
Contamination Samples - Tier 1	6	11	-	1	18	5	5	5	5	5	25
Contamination Samples - Tier 2	9	3	13	6	31	8	8	8	8	8	40
Failure	67	5	1	1	74	19	19	19	19	19	95
Fuel Samples	18	17	3	10	48	12	12	12	12	12	60
Helium Samples	188	335	183	223	929	232	232	232	232	232	1,160
Hydraulic Fluid Samples	39	61	31	19	150	38	38	38	38	38	190
Hydrogen Samples	201	206	221	131	759	190	190	190	190	190	950
Nitrogen Samples	476	621	557	665	2,319	580	580	580	580	580	2,900
Non-Volatile Residue	1,006	997	946	1,214	4,163	1,041	1,041	1,041	1,041	1,041	5,205
Oxygen Samples	46	45	73	316	480	120	120	120	120	120	600
Prepare Etchant/Chemicals	4	2	-	-	6	2	2	2	2	2	10
Prepare Gas Stds for Customer	6	1	1	3	11	3	3	3	3	3	15
DEMAND	972	1,130	1,105	1,073	4,280	11,289	9,989	6,010	5,735	5,370	38,393
MAF	-	-	-	-	-	10,112	8,112	4,354	4,079	3,714	30,371
Composite Development Fabrication	-	-	-	-	-	1,260	1,320	920	870	745	5,115
Failure Analysis	-	-	-	-	-	930	930	525	630	440	3,455
Material Composition	-	-	-	-	-	506	506	434	345	335	2,126
Mechanical Testing	-	-	-	-	-	5,199	3,182	1,109	1,123	1,118	11,731
Miscellaneous Testing	-	-	-	-	-	205	211	208	164	164	952
SOFI Application and Testing	-	-	-	-	-	2,012	1,963	1,158	947	912	6,992
SSC	972	1,130	1,105	1,073	4,280	1,177	1,877	1,656	1,656	1,656	8,022
Air Samples	24	34	45	45	148	43	66	63	63	63	298
Condensible Hyd	-	2	10	6	18	6	10	10	10	10	46
Contamination Samples - Tier 1	-	-	5	9	14	7	7	-	-	-	14
Contamination Samples - Tier 2	6	6	124	3	139	63	66	6	6	6	147
Failure	3	-	-	-	3	1	2	2	2	2	9
Fuel Samples	15	3	30	58	106	46	54	17	17	17	151
Helium Samples	173	211	59	63	506	138	216	216	216	216	1,002
Hydraulic Fluid Samples	50	46	54	149	299	93	117	88	88	88	474
Hydrogen Samples	22	7	15	6	50	15	27	27	27	27	123
Nitrogen Samples	252	206	67	63	588	176	286	260	260	260	1,242
Non-Volatile Residue	391	612	610	658	2,271	569	994	942	942	942	4,389
Oxygen Samples	33	3	6	13	55	19	30	23	23	23	118
Prepare Etchant/Chemicals	3	-	-	-	3	1	2	2	2	2	9
Special projects - MFB hours to widgets	-	-	80	-	80	-	-	-	-	-	-
Grand Total	31,725	34,615	31,257	30,792	128,389	40,588	40,488	36,283	37,117	35,638	190,114
Tests by Center:	Historical Data				Future Requirements						
SSC	28,566	28,994	27,597	27,931	113,088	26,660	28,560	28,113	28,113	28,108	139,554
MAF	3,159	5,621	3,660	2,861	15,301	13,928	11,928	8,170	9,004	7,530	50,560
	-	-	-	-		-	-	-	-	-	

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**APPENDIX B**  
**HISTORICAL MATERIALS**

The following list provides the historical materials used to support the work identified in the PWS. The Contractor is responsible for ensuring all materials are available to support services in accordance with the PWS. Historically these items have cost \$400,000 for SSC and \$100,000 for MAF, a year.

1 gal paint can w/lid case of 6 # 3LEE6	EAGLE SPILL TRAY BLACK	POTASSIUM CHLORIDE
40 mL vials/Ascorbic Acid vials #LV63-X100-D41A	Easy Peel Laser Address Lbels	POTASSIUM CYANIDE
AVE 5523 White Weatherproof Shipping Labels 2" X 4"	EBT0758 Tryptic Soy Broth	Potassium Iodide lab Grade 500g poly
Avery Waterproof labels # AVE5520	Economy Scissors	POTASSIUM PERMANGANATE
Avery Waterproof labels # AVE5523	EDB, PotableWatR part# 706	POTASSIUM PERSULFATE
Cat No. F13463-0600 Write-On Label Tape Rainbow	EDB/DBCP/TCP QC #706	POWDER FREE NITRATE GLOVE, L
Glyphosate Potassium Phosphate Eluant K200	EDB/DBCP/TCP WS # 847	Powder free nitrile glove, L, PK100 # 1RL59
# 09-034-14 Barnstead cartridge no dye	EI FIAMENT G3170-60050	Powder free nitrile glove, XL, PK100 # 1RL59
#372 CLEAR SCOTCH TAPE 2.2 MIL. (3X 110YD)	ELAN 6100 DETECTION LIMIT SOLUTION	PowerHouse Desktop Electric Pencil Sharpene
#9 TRAP STRAIGHT	ELAN 6100 Setup/Mass Cal Solution	PPM-515M-1, HERB DEGRADATION CHECK SOLN
#9 TRAP, CAT# 14-9908-003	ELAN 6100 SOLUTION	pps-251-1 1,2,3-Trichloropropane Solution 1 x 1 mL
\$10.00 disc for web order over &250.00	ELAN Set up/Stabl/Mass Cal solution - Cat # N8125030	pps-300-1 2-Bromopropionic Acid Solution 1 x 1 mL
(YSI # 055219) Storage Calibration Chamber Sponge	ELITE TONER CART. HP Q2612A	Precleaned 40mL QC clear glass VOA vials(cs of 72)
(YSI # 5680) Probe Reconditioning Kit	Energizer 357 watch batteries EVE357BPZ3	Precleaned 40mL QC clear glass VOA vials(cs of 72) Cat# 376740
(YSI # 5775) Standard Membrane and KCI Kit (1 mil)	ENERGIZER WATCH BATTERY	PREMADE MATRIX MODIFER
***Potassium Permanganate 500g	Enviro-Safe Liquid Filled Freezer Thermometer	PRESS FIT CONNECTORS
***Trace Metals Grade Sulfuric Acid 500 mls	Enviro-Safe Liquid Filled Incubator Thermometer	PROBE SENSOR GUARD
0.025 n sodium thiosulfate	enviro-safe liquid filled oven thermometer	PROPACHLOR
0.5 ML VIALS W/ CAPS # 038142	Enviro-Safe Liquid Filled Refrigerator Thermometer	prospore biological indicator
0.5 ML VIALS W/ PLAIN CAPS # 042014	EP Scientific 40 mL vials/Sodium Thiosulfate	Prospore Self-contained Biological Indicator Cat # 12-001-2
0.5 ML VIALS W/FILTER CAPS, PN: 038142	EPA Method 504.1 4 x 1 mL Mix Cat # DWM-514	P-TERPHENYL-D14 4X1ML.. CAT# ATS-161
0.5 ML VIALS W/PLAIN CAPS, PN: 042014	EPA METHOD 504.1 MIX 4X1 ML	PTFE DISPOSABLE STIR BARS
0.5 ml vials with filter caps part#038142	EPA Method 504.1 Mix Cat # DWM-514 1 x 1 mL	PTFE drop-dispensing bottle, 50 MI 02-686-202B
0.5 ml vials with plain caps part#042014	Eppendorf ep Tips Racks 5 x 96 50-1000uL	PTFE PIPE THREAD TAPE 44071
022491555 50-1000 ul epTIPS reloads	Eppendorf epTips Standard/Bulk 1-10m	PTFE PIPE THREAD TAPE 44078
022492098 1-10 ml bulk epTIPS	Eppendorf* epTIPS 100 to 5000uL,(5ml) case of 500	PTFE-faced silicone septum, 8mm pack of 50

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03-313-6b 250ml Nalgene bottle	Eppendorf* epTIPS, Eppendorf Quality Volume: 1 to 10mL; Bulk, 2 bags of 100 Cat # 05-403-116	Pump Head Replacement Kit
03-313-6d 1000ml Nalgene bottle	Eppendorf* epTIPS, Eppendorf Quality Volume: 100 to 5000µL; Packaging: bulk, 5 bags of 100 Cat # 05-403-62	Purge & Trap Methanol case of 6
038142 filter caps and 0.5 ml poly vials	Eppendorf* epTIPS, Eppendorf Quality Volume: 2 to 200µL; Packaging: rack, 10 x 96 Cat # 05-403-66	PURGE AND TRAP METHANOL
042014 0.5 ml poly vials with plain caps	Eppendorf; epTIPS; Eppendorf quality 100 to 5000 volume	Purge and Trap Methanol 1L x 6 #A453-1
042014 0.5ml POLY VIALS W/ PLAIN CAPS	ertco precision maximum registering thermometer with case	Purge and Trap Methanol 1L x 6 Cat# A453-1 Case of 6
043275 Bolt, PEEK, Double Cone Ferrule Fitting (10/32)	Ethanol, Absolute, 200 proof; 99.5% Reagent ACS ACROS	PURPLE NITRATE GLOVES SM
043276 Ferrule, PEEK, Double Cone (10/32)	Ethyl acetate Cat# E196-4	PVC Pump Tube; Black (12/pk)
051786 AS9-HC 4mm column	ETHYL ACETATE E-196-4	PVC Pump Tube; Blue (12/pk)
051791 AG9-HC 4mm guard column	Ethyl Ether (Pesticide) 1x4L	PVC Pump Tube; Red (12/pk)
064554 4mm ASRS	Ethyl Ether 4L	PYREX BRAND INDIVIDUAL WRAP DISPOSABLE GLASS SEROLOGICAL PIPETS
1 GAL PAINT CAN CASE OF 6	EXACT INDEX CARD STOCK WAU40311	PYREX CRYSTALIZING DISHES
1 LITER COOLANT FOR RECIRCULATOR we016558	Extractables Mixture 1 X 1 mL	Pyrex Griffin Beaker 800 mL pack of 6 #02-540N
1 mL Syringe Cat#14-824-25	ez glide lubricated cloth	PYREX SQUIBB PEAR SHAPED 500ML SEPARATORY FUNNEL W/ PTFE STOPCOCK PLUGS AND GLASS STOPPER
1,1,2-Trichlorotrifluoroethane 1 x 1 mL	ezylok kit	Pyridine Certified ACS 500 ML # P368-500
1,1,2-TRICHLOROTRIFLUOROETHANE SOLUTION	FACTORY CALIBRATED MAXIMUM REGISTERING THERMOMETER	QCP-QCS-1; 125mL poly bottle
1,2,3,4-Tetrachlorobenzene 1x1mL Cat # EPA-1234	FENAMIPHOS CAT# PST-1435M100A01	QCP-QCS-2; 125mL poly bottle
1,2,3,5-Tetrachlorobenzene 1x1mL Cat # EPA-1235	Fenamiphos Cat# PST-1435M100A01 1x1 ML	QCP-QCS-3; 125mL poly bottle
1,2,3-Trichloropropane Solution 4X1 ML CAT# PPS-251	Ferrous Iron Reagent (Powder Pillows for 25 mL sample (Pk/100)	QUALITY CONTROL STD 1
1,2,3-Trichloropropane 4 x 1 ML	FERROUS IRON REAGENT POWDER PILLOWS	QUALITY CONTROL STD 2
1,2,3-Trichloropropane Solution 1 x 1 mL Cat# PPS-251-1	File Folders	QUALITY CONTROL STD 3
1,2,4,5-Tetrachlorobenzene 1x1mL Cat # EPA-1160	Filtermate 2mm PTFE 100/pk	Quantum Storage Systems Container Lids
1,2-Dibromopropane in Hexane 1 x 1 mL	FIRST AID KIT	Quantum Storage Systems Dividable Grid Containers
1,2-Dibromopropane in MeOH 1 x 1 mL	Fisher Borosilicate Glass pipets 9 in. 1440/case	Quantum Storage Systems Length Dividers
1/16 in column nut Pkg of 5 Cat # 09903392	Fisher Brand Traceable Conductivity Calibration Standard	Quantum Storage Systems Width Dividers
1/4 VESPEL/GRAPHITE FURRELS	FISHER BRAND WRITE ON METAL TAGS	quartz inner tube
1/8" TO 1/16" GV REDUCING FURRULE	Fisher Cat # NC0539677 Large Industrial Drum Funnel (Bel-Art Cat # H14716-0000/EA)	quartz outter tube

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10 mL disposable serological pipets case of 500	Fisher Cat. # 03 421 167 Drum & Carboy Funnel (Bel-Art Cat # H14712-0350)	RACK LOCK CUPS W/SCREW CAPS #SC475
10 mL Glass Serological Pipettes case of 500, CAT # 13-678-31J	Fisher Polystyrene Pipets case of 500 #13-676-10F	RC818474 carbon std, org
10 ml. polystyrene pipets 13-676-10F	Fisher Scientific Traceable Single Direction Benchtop timer Cat# 06-662-8	RECYCLED NOTES
10 ul Syringe Cat# 06-710-535	FisherBrand Disposable Borosilicate Glass Pastuer Pipettes	red aluminum crimp seals pk 100
100 to 5000µL Eppendorf pipet tips 05-403-62	Fisherbrand PTFE disposable bars case of 100	Reductant Bottle Tubing
100 ul Syringe Cat# 06-712-325	Fisherbrand Sterile Polystyrene Disposable, Serological Pipettes with Magnifier Strip Orange Capacity, multipack 500/cs	Reductant Bottle w/Cap & Fitting Cat#120-00060
1000ml loop for ASI-100 part# 5810.3010	Fisherbrand Weighing Dish, Low Form, Aluminum; fluted	REFILL FOR G2 GEL
1000mL Nalgene Wide Mouth HDPE Sample Bottles	Fisherbrand Weighing Dish, Small Hexagon 500/pk 02-202-100	refillable hydrocarbon trap
1000mL Nalgene Wide Mouth HDPE Sample Bottles (cs/50) CAT#03-313-6D	Fisherbrand white autoclave tape	refrigerator thermometer
1000mL Nalgene Wide-Mouth HDPE Sample Bottles	Fisherbrand* Amber Boston Rounds w/ PTFE-Faced PE lined caps 125ml	Regulated Volatiles WS 218 cat # 840
1000mL Nalgene Wide-Mouth HDPE Sample Bottles (cs/50) Cat# 03-13-6D	Fisherbrand* Amber Boston Rounds w/ PTFE-Faced PE lined caps 60ml	Regulated Volatiles QC cat# 703
1000mL Nalgene Wide-Mouth HDPE Sample Bottles(cs/50) Cat#03-313-6D	flat bottom, Volume 0.25mL Cat# 03-337-51	Regulated volatiles, PotableWatR part# 703
1000mL Nalgene Wide-Mouth HDPE Sample Bottles, (cs/50) Cat#03-313-6D	FlexGrip Elite Ballpoint Retractable Pen	REGULATED VOLITALES,POTABLEWATR,# 703
1000ML ROUND BOTTOM FLASK WHEATON	floor box bag replacements 100/carton	REPLACEMENT INLET SEAL
1000ml syringe for ASI-100 part#5805.2940	floor glass disposal box	REPLACEMENT NEEDLES
1000ML SYRINGE FOR ASI-100 PN: 58052940	Floor-Glass Disposal Boxes 12x12x27 6pk #12-0097a	Residual Chlorine QC #696
1000PPM CYANIDE STD	FLOURIDE 1000MG/L 125ML #050	Residual Chlorine WS 215 #593
100-5000ul Eppendorf Tips Part # 22492080	FLOW RESTRICTORS	residual chlorine, PotableWatR part# 696
10ML DISPOSABLE SERELOGIACAL PIPETS	Fluoride 1000mg/L 125 ml part# 050	Resolution check mix
1-10mL ePTIPS 05-403-116	FORTIFICATION RECOVERY STANDARD	Reusable Glass Narrow Mouth Erlenmeyer Flasks FB500250
1-10ml ePTIPS Cat # 05-403-116	fume extraction unit towe	Ricca Inorganic Carbon Standard 18454
11-462-67D Microflex Diamond Grip Powder-Free Latex Gloves LARGE	fume transfer tube for fume extractor	Ricca Organic Carbon Standard 1847-16
11-462-67E Microflex Diamond Grip Powder-Free Latex Gloves XLARGE	FURRULE, 1/8" FIT TUBE GVF	Rieke Spout Lid; white
12 - 100 ml volumetrics 10-210C Corning No.:5640-100	G2 GEL INK PEN	Rieke Spout Lid; white Cat # 6MRJ7
12-001-2 Prospore Bio indicator 50 ampoules	gas tube 6 x 1 mm	RIEKE SPOUT LIDS, WHITE
125ML SULFUR PPM STD	GAS TUBING	Rinse Bottle Tubing



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125ML SULFER PPM STD(REQUEST THAT ITEMS HAVE DIFFERENT LOT #'S	GC/MS TUNING MIXTURE	Rinse Bottle w/Cap & Fitting Cat#120-00417-1
15 mL conical-bottom glass centrifuge tubes case of 12	GC/MS TUNING STD	Rtx - VMS column (fused silica) Cat# 19916
150W Xenon Bulb for Jasco FP-920, USUXL150S (ORDERING CODE: 0000249)WORK STOPPAGE	GCMS PERF CHECK SOL'N	RTX- VMS COLUMN (FUSE SILICA) CAT# 19916
16Oz Eyewash Saline bottles	GCMS PERF CHEX MIX 31827	rtx-5ms column
1700-0132 ChlorAC Buffer	Gelex Secondary Turbidity Standard 2100N	RTX-CLP PEST COLUMN KIT #11197 0.53 MMID
18 OZ. WRITE ON WHIRL PAK	GELEX SECONDARY TURBIDITY STD	RTX-CLP PESTICIDES COLUMN
18. OZ WRITE ON WHIRL-PAK (500)	GELMAN GN-6 MEMBRANE FILTERS	RXI-5MS,30Mx.25MM COLUMN #13423
18.oz write on whirl pak bag, box of 500	GELMAN GN-6 METRICEL MEMBRANE FILTERS	SA60-1 0.02N Certified HCL solutiona 1L
18mm Magnetic Screw Cap, Natural PTFE 18-MSC-ST201	Geotech L/S 24 Silicone Tubing (Roll of 25')	SAFETY CHOICE ECONOMICAL POWDER FREE LATEX GLOVES XL
19-149-863A Kimberley Clark Purple Nitrile Gloves Small	GEotech L/S 36 Silicone Tubing (Roll of 25')	SAFETY VENTED LABELED WASH BOTTLES (ETHANOL)
1GAL PAINT CAN W/LID	Geotech L/S Size 24 Silicone Tubing (25' roll)	SAK-100-1 GRO Mixture 1 x 1 mL
1L Bottles of Hydrochloric acid Solution N/50	GERMICIDAL LOW PRESSURE LAMP 30W	Sample Cell, Matched set of two; CAT# 2665902
1L poly bottle Iodine, 0.025N APHA 4500-S2 F, 1L GLASS BOTTLE	GFCI Line Cord, Current reading 20 amps	Sample Cells: 1 Square glass 10mL & 25 mL Set of 2
1Liter Amber bottles 02-912-000 12/case	Glacial Acetic Acid (Certified ACS) 500mL Safe Coat bottle CAT # A38S-500	SAMPLE CELLS: 1SQUARE GLASS 10ML&25ML SET OF 2
1mL 5X96 Eppendorf Tips Part # 22491105	Glacial Acetic Acid (Certified ACS)500mL Glass bottle	Sample FLTR Tip
1ML. GASTIGHT SYRINGES 81316	GLASS DISPOSABLE BOXES	Sample FLTR Tip Cat#120-00277-1
1-Nessler Reagent, 500 mL	glass torch body	SAMPLE INTRODUCTION SPARES KIT
2- Bromopropionic Acid Solution 1 x 1 mL Cat#PPS-300-1	Glycerol Clear, colorless USP/FCC Amber-1L #G31-1	santovac diff pump oil
2 mL amber crimp top with patch box of 100	Glyphosate 100mg/L PPS-190-1	Sarsted (#55.467) round bottom Polystyrene Test Tube 13x100MM, 8mL 1000cs
2,4,5-T ME CAT# P-067S	Glyphosate Column Regenerant RG109	SCIENCEWARE BOTTLE CARRIER
2,4-dichlorophenylacetic solution 1x1ml	Glyphosate Std 100 mg/L PPS-190-1	SCP SCIENCE WATCHGLASSES
2.5kg Glass Bottle Sodium Sulfate Anhydrous Certified ACS Granular	GRADE 6 HELIUM	SCREW CAP VALVES, 1mL
20 mL clear scintillation vials case of 500 Cat# B33120-5T	graphite nozzle	Screw caps 33mm, 02-912-071 100/pk
200.8 CAL STD 1	graphite nozzle o-ring	Screw caps 58mm 02-912-077
2000mL Nalgene Sep Funnels 10-437-25E 2/cs	GREEN ABRASIVE SHEETS 5PK. 5061-5896	sdwa herbicided mixture 1x1 ml
2008 CAL-1; 125mL poly bottle	GRO Mixture 1 x 1 mL Cat # SAK-100	SDWA Herbicides Mixture 4 x 1 mL
200ML TURBOVAP TUBES, 1ML END POINT. #45817	GUARD COLUMN	sdwa methylated herbicides mix

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20-compartment carrying rack	H2SO4 Trace Metal Grade 500mL	SDWA Methylated Herbicides Mixture 4 x 1 mL
20ml Headspace vials # 13-622-132	HAA QC cat # 852	SDWA VOLATILES MIX
20ML SCINTILLATION VIAL	HAA WS 214 cat # 684	SDWA Volatiles Mix 1x 1 mL Cat# DWM-594-1
20MM PRE-ASSEMBLED CRIMP SEAL 100PK. CAT # 500 272	HAA WS 218 cat # 852	SEA SPRAY NEBULIZER
22492080 100-5000 ul epTIPS bulk	HAA MIX #1 1X1 ML #31677	SELENIUM
25 mL Graduated Cylinder, Mixing, Class A, with stopper	HAA MIX #1 1X1 ML CAT# 31644	Selenium 1000 ug/ml std
25 ul syringe Cat# 06-712-321	HAA Mix 4 x 1 ML	Semi Volatiles #2 QC #691
250 mL Nalgene Wide Mouth HDPE Sample Bottles (cs/250) Cat #03313-6B	HAA, PotableWatR part# 684	Semi Volatiles #2 WS 216 #849
250 ul Syringe Cat# 06-712-327	HAA, PotableWatR part# 704	Semi Volatiles Matrix Spiking Solution 25 mL
250mL Nalgene Wide-Mouth HDPE Sample Bottles	Haloacetic Acid Mix #1 1x 1 mL	Semi Volatiles Surrogate STD Spiking Solution 100 mL
250ML SYRINGE FOR ASI-100 PN: 58052930	Haloacetic Acid Mix 1 x 1 mL Cat# 31644	semi-vol surrogate std. spiking solution
250ML WIDE MOUTH HDPE SAMPLE BOTTLES	HALOACETIC ACID MIX 31644	semi-volatile matrix spiking solution
25388-640 PALL GELMAN STERILE PETRI DISHES	Haloacetic Acids Mixture 1 x 1 mL Cat# PHM-552A	SEMI-VOLATILE MIX SVM-525
28148-925 GELMAN GN-6 MEMBRANE FILTERS	Haloacetic Acids Mixture 4 x 1 mL	Semi-volatile Mixture 4 x 1 mL Cat # SVM-525
2-Bromopropionic Acid 4 x1 mL	HALOMETHANES(THMs),POTABLWATR, #702	Semi-Volatile surrogate spiking solution 100 mL
2ML AMBER W/PATCH	Hamilton 5 mL gas tight syringes 14-813-145	Semi-Volatiles #1, PotableWatR part#690
2ML CLEAR VIAL W/PATCH-CRIMP CAP PK. 100	hamilton model 1001, 1mL syringe Cat # 14-813-143	Semi-Volatiles #2, PotableWatR part#691
2ml. Clear ID vial pk. Of 100	Hardness QC #693	semi-volatiles gc/ms tuning std.
2MM ASRS SUPPRESSOR # 64555	Hardness WS215 #555	Semivolatiles QC cat #690
2-PROPANOL (HPLC) 4LITRE CAT# A451-4	hardness, PotableWatR part# 693	Semivolatiles WS 218 cat#848
3/8" ID VINYL SUCTION TUBING	H-B Instrument Frio-Temp Precision Liquid in glass verification thermometers 20 - 130 deg C Cat # 13-201-553	SERIES 2 REPLACEMENT ION LENSE
3/8 OD X 1/4 ID POLY TUBING (ROLL 500')	HCL Acid Solution, 0.02N(N/50) Certified 1L Poly Bottle Cs/6	SGP5UHPK 5% Methane/95% Argon
3/8" ODX1/4" ID POLY TUBING	HCL ACID TRACE METALS GRADE 2.5 CAT# A508SK-212	Shipping Labels With TrueBlock Technolog
3/8" ID VINYL SUCTION TUBING	HELIUM GRADE 6	SILASTIC PUMP TUBING
3/8" OD x 1/4" ID Poly Tubing (Roll of 500')	Helium Purifier Module 1/8 " CompressionTube fitting	SILICA
32 OZ SAMPLE BOTTLE UX-99540-57	HELIUM UHP	Silica 1000 ug/ml std
35 qt. mop bucket	helix seal	silica, PotableWatR part# 785
3M # 371 Highland Scotch Sealing Tape, 3" x 110 yds	HERB CAL STD	SILICA,POTABLEWATR,#785
3M Heavy-Duty Carton Sealing 3" Pistol Grip Tape Dispenser	HERB TCLP MIX	SILICON OIL 15 ML
4 OZ WRITE ON WHIRL-PAK (500)	HERBICIDE INTERNAL STD	SILICONE TUBING # 77050009
4,4-DIBROMOBIPHENYL SOLUTION 4X1 ML PPS-420	HERBICIDE LAB PERFORMANCE MIX	siltek inlet seal, 10pk

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40 ml Amber VOA Vial Case of 72 #376840	HERBICIDE MIX #1	SILTEK INLET SEALS
40 mL clear vial preserved Ascorbic and Maleic Acid	HERBICIDE STD SDWA	SILTEK INLET SEATS
40 mL clear vial preserved w/sodium thiosulfate case of 72	Herbicides WS 214 cat # 704	Silver 1000 ug/ml std
40 ml clear VOA Vial Case of 72	Herbicides WS 218 cat # 851	silver aluminum crimp seals pk 100
42 OZ. WRITE ON WHIRL PAK	HERBICIDES SURROGATE STD	SILVER SEALS
4700 WYPALL L20 1/4 FOLD SHEETS	Herbicides, PotableWatR part# 704	Simazine Solution 4 x 1 mL
4MM ASRS SUPPRESSOR # 64554	Hexane Case of 4X4L	SIZE 24 TUBING
5 GRAM EN CORE SAMPLERS	Hexane Ultra GRO Mix 1x1 mL	SKIPPED--- MR KICKED BACK PER DON
5 ml vials with filter caps part#038141	Hexanes	SLIDE PLATE O-RING
5% Potassium Persulfate Solution 1 Liter	Hg Lamp	Slim CD Case
50 ml Disposable Polypropylene beakers (10 pks)	HNO3, TRACE METAL	Small Hexagonal Weighing Dishes pk of 500
50 ml polypropylene disp beakers 01-291-10	Hot Not Heat-Resistant Gloves 100% Nomex III	SNAKE BITE KIT
50 ul Syringe Cat#06-712-323	HYDROCARBON TRAP	SODIUM
500 ul Syringe Cat# 06-712-329	HYDROCARBON TRAP REFILL	sodium bicarbonate
500ML CLASS A GRADUATED CYL	Hydrochloric Acid, Trace Metals Grade, 2.5L, #A508SK-212	Sodium Bisulfate 500g Cat #S240-500
500mL Nalgene Wide Mouth HDPE Sample Bottles	Hydrolysis Reagent for Carbamate CB130	sodium bisulfate monohydrate
508 pest # 2 32095	Hypochlorite Diluent for Glyphosate GA116	SODIUM CARBONATE, ANHYDROUS; ACS;POWDER. EMD; 500GPOLY BOTTLE CAT#EM-SX0395-1
508 pest #32094	I GAL PAINT CAN CASE OF 6, #40832	Sodium Chloride ACS grade 10kg pail cat # S271-10
508 pest #32096	ial Rack, 40 mL EPA Vial, 5/case #23206	Sodium Chloride Hydroxylamine Sulfate 1 L
508 pest perf check mix 32045	I-CHEM 2oz glass jar/ Case of 24 #05-719-257	Sodium Hypochlorite Acros cat# 419552500
508 PEST PERFORMANCE CHECK 32045	I-Chem 40 mL vials / Case of 144 #05-719-106	Sodium Sulfate (Granular,10-60 Mesh) 2.5Kg Cat # S415-212
508.1 PESTICIDES KIT	IDEXX WKIT 1001 QUANTICULT	Sodium Sulfate Anhydrous
50ML CLASS A GRADUATED CYL	IDEXX WP104 Colilert P/A Comparator with vessel	Sodium Sulfite Cat # S430-500
515.4 HERB MIX	IDEXX WPI04 COLILERT P/A COMPARATOR WITH VESSEL	Sodium Thiosulfate Cat#SS370-1 1L
525 BNAE MIX	IGLOO PLAYMATE- THE BOSS COOLER	Sodium Thiosulfate N/40(0.025N)Certified 1L Poly CAT# SS3701
525 HERBICIDES MIX	IMAGE TONER CARTGRIDE FOR HP C3909A	SODIUM THIOSULFATE N/40(0.025N)CERTIFIED 1L POLY BOTTLE CAT# SS3 701
525 recovery std, cat # 31828	Indicating Drierite WA Hammond 5lb glass bottle 10-20Mesh Cat#07-578-4B	Solution-E6100 Det Limit
525 STD KIT	Individual cal mix A	SOLVER
525.2 calibration std mix 31899	Individual cal mix B	SP Kit Drn PMP TBG
5ML FRIT SPARGER 5182-0852	industrial Marker Sharpie SAN13601	SP Kit Drn PMP TBG Double Blue(12/pk) Cat#902-00084-1

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5ML VIALS WITH FILTER CAPS	INORGANIC CARBON STANDARD	SP KIT DRN PMP TBG-DOUBLE BLUE- #902-00051-1(12/PK)
6 GLASS DISPOSAL BOXES	Inorganic Disinfection 1 QC #5272	SPACESAVER TIP-RACK Refill(768/8) GPS-1000
6.7 qt stainless steel pan	Inorganic Disinfection 1 WS #5270	SPACESAVER 1000UL TIPS
60 ml Amber VOA Vial Case of 72	inorganic disinfection 1, PotableWatR part# 5272	Sparco Manila Ring Book Indexes # SPR01823
665 Double-Sided Office Tape	Inorganic Disinfection 2 QC #5262	SPARCO STAMP REFILL BLACK
68-1680-058 3/8" ID Vinyl Suction Tubing	Inorganic Disinfection 2 WS #5260	SPARCO STAMP REFILL BLUE
7/8 SEPTRA SEAL TEFLON	inorganic disinfection 2, PotableWatR part# 5262	SPARE BATTERY PN: 022467018
800mL Beaker 02-539N	Inorganics QC cat# 698	Spare Optical Cell Cat#121-00023-1
8150 HERB STD, ME CAT#M-8150	Inorganics WS 214 cat# 591	spc science watch glass
8330 cal mix #1 cat#31450	Inorganics WS 216 cat# 591	SPE-O/G MDL STD #G3024
8330 cal mix #2 cat#31451	Inorganics, PotableWatR part# 698	spike sol'n
8mL glass screw cap vials 03-391-7c	INSTRUMENT PERF CHECK	SPIKE STD 2
9" DISPOSABLE GLASS PASTURE PIPETS	INSTRUMENT PRF. CHECK 1	SPINPLUS MEGNETIC STIRRING BAR 3/4X3/4, CAT# 371440034
9 V COPPERTOP	INSTRUMENT PRF. CHECK 2	STABLCAL FORMAZATION STD
9" disposable pasteur pipets Cat # 13-678-20D	Int and Surr standard fortification solution 25 mL	StablCal Formazin Standards
A4954-010 Screw-Top Vial Kit	INT/SURR STD MIX	Stainless steel 14qt pan # 4NDD3
AA COPPERTOP	INT/SURROGATE STD. ISM-511X	STAINLESS STEEL 3 WAY VALVE
AAA COPPERTOP	INTERFERANCE CHECK STD A	STAINLESS STEEL HOSE CLAMPS
ABSORBER TOP	Internal & Surrogate Mix Cat# STM-540	STAINLESS STEEL, 1/4" AN TO 1/4" NPT
Accuform Self Laminating HMCIS Labels 19-804-618	Internal & Surrogate Standard Mix 1 x 1 mL	Stainless-Steel Scissors, corrosion resistant Cat # S173182
ACETATE BUFFER # LC100401	Internal & Surrogate Standard Mix 4 x 1 mL	Standard TCLP Filters-90mm, 0.7um, 100/pk Cat # FG75090MM
ACETONE	Internal & Surrogate Standard Mixture STM-540	STANNOUS CHLORIDE
Acetone (HPLC) Case of 4X4L	Internal and Surr STD Mix 1 x 1 mL Cat#STM-540-1	Stannous Chloride, Dihydrate, ACS, 500g poly bottle
ACID WASHED TCLP FILTERS #FG77142MM	internal std mix, 525.2, cat # 31825	stator face for 6 port injection valve ICS3000 part#044971
ACROLEIN- ACRYLONTRILE	Internal Surrogate Standard Mixture 1x1 ml cat# STM-540-1	stator for 6 port injection valve part# 063180
Acrolein-Acrylonitrile Mix 1 x 1 mL cat # AMN-623	INTERNAL&SURROGATE STD MIX	STD TCLP FILTERS 100/PK
activated carbon	IODINE 0.0025N # ALPHA 4500-S2 F 1L GLASS BOTTLE	Sterile Polystyrene Disposable Pippett 10mL 13-676-10F
Ag/AgCl Reference Electrode Filling Solution	IonPac AG9-HC Guard Column (4 x 50 mm) #051791	Sterile Polystyrene Disposable SerologicalPipettes 10mL (500/cs)
AGT-STD-1; 125mL poly bottle	IonPac AS9-HC Analytical Column (4 x 250 mm) #051786	STERILE WATER
AIR INTAKE FILTER-SM WE022567	IRON	STM-540 Internal/Surr. Standard mix 4X1 mL

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<b>AIR REPLACEMENT FILTER</b>	<b>ISCO MODEL 3710 STD SAMPLER LOCKING ASSY</b>	<b>STRONTIUM</b>
<b>ALACHLOR</b>	Item # 25388-640 Pall Gelman Sterile Petri Dish, 50 x 9 mm with absorbent pads, (Pack of 100)	Strontium 1000 ug/ml std
Aluminum 1000 ug/ml std	Item # 28148-680 M-FC Broth with Rosolic Acid (50/pk)	<b>STRUCTURAL WRENCH W/OFF-SET HEAD</b>
Aluminum crimp seal - blue pack of 100	Item # 28148-926 Gelman GN-6 Metrical Membrane Filters (200/Pack)	Sulfamic Acid Fisher 100 gram bottle Cat # MSX1140-1
Aluminum crimp seal Gold 100pk #06-406-19L	Item # B01065WA 18 oz. Write-On Whirl-Pak Bag, Box of 500	Sulfate 1000mg/L 125 ml part# 062
Aluminum crimp seal green 100pk #06-406-19J	Item # BC1000 Custody Seal (1" x 3.25") (Unit Size 250)	Sulfide Standard (1000ppm) part # 999
Aluminum crimp seal red 100pk #06-406-19H	Item # BC1005 Custody Seal (1" x 7") (Unit Size 125)	<b>SULFIDE STD</b>
Aluminum crimp seal Silver 100pk #03-375-24	Item No 1037-69 Ferrous Iron Reagent Powder Pillows	Sulfuric Acid, Trace Metal Grade(500mL)
Aluminum Foil Roll 6CHG6	ITEM NO B01065WA 18 OZ WRITE-ON WHIRL-PSK BAG (BOX OF 500)	<b>SUPELCO DRYING COLUMN</b>
Amber Boston Round bottles 125mL 02-911-358 case of 24	Item No. 21055-69 DPD Free Chlorine Reagent for 10ml samples	surrogate std mix, 525, cat# 31826
Amber Boston Round bottles 30mL 02-911-356 case of 48	ITEM NO. 68-1680-058 3/8" SUCTION TUBING	<b>SV INTERNAL STD</b>
Amber Target ID vial(2mL)-(100/pk)	Item No. WP20001 Colilert P/A for 100 mL samples (200 Tests)	<b>SV SURROGATE STD</b>
<b>ANTIMONY</b>	ITEM NO. WP2001 COLILERT P/A FOR 100 ML SAMPLES (200) TESTS	<b>TAPERED QUARTZ 1.8MM INJECTOR</b>
Antimony 1000 ug/ml std	JT BAKER DPEEDISK COLLECTION CHAMBER, 50mm CAT# NC9739677	tapered quartz injector
<b>ARGON</b>	kim Clark purple Glvs 19-149-863A	telp herbicide spiking mixture 1x1 ml
<b>AROCLOR STANDARD 1260</b>	<b>KIM WYPES</b>	telp pesticide spiking mixture 1x1ml
aroclor standard kit	KIMAX Class B Cylinder 100mL (pk of 4)	telp semi-vol spiking mixture 1x1ml
<b>AROCOLOR SOLN</b>	KIMAX Class B Cylinder 50mL (pk of 4)	Teflon silicon screw thread septa cap 100 pack #169609-TS
<b>AROCOLOR SOLN KIT</b>	Kimberly Clark Purple Nitrile Gloves	terphenyl-d14 31828
<b>ARSENIC</b>	Kimble phenolic caps w/PE liners case of 144 size 33-400	<b>THALLIUM</b>
Arsenic 1000 ug/ml std	KIMTECH SCIENCE KIM WIPES	Thallium 1000 ug/ml std
AS21 2X250 COLUMN # 063009	Kit - Turbomass Inner Source Rebuild Cat # E6400043	<b>THERMO SCIENTIFIC EP BOSTON ROUND OPEN TOP</b>
Ascorbic Acid Cat # A61-100 (100g bottle)	LAB CHECK SOLUTION	<b>THERMO SCIENTIFIC NALGENE SEPARATORY FUNNELS</b>
ASPEN 30 Office Paper	Lab Check SOLUTION PPM-531-1	<b>THERMO SCIENTIFIC NIST CALIBRATION THERMOMETER. PN: Y0-93909-82</b>
<b>ATRAZINE SOLUTION</b>	<b>LAB FORTIFIED STOCK SOLUTION</b>	Thermo Scientific Orion Membrane caps for Polarographic Dissolved Oxygen Probe
autosampler syringe, Cat # 03-052-724, P/N 365D0291 10uL	LAB FORTIFIED STOCL SOL 1	Thermo Scientific* Orion* Probe Maintenance Kits for Dissolved Oxygen Meters Cat # 13-299-519
<b>AVE5520 LABELS</b>	<b>LAB FORTIFIED STOCL SOL 2</b>	<b>THMs QC cat# 702</b>
<b>AVE5523 LABELS</b>	<b>LABELS</b>	<b>THMs WS 218 cat# 842</b>

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<b>AVERY 1X2 5/8 # 5160, 3000/BX</b>	<b>Laboratory Check Solution PPM-531-1</b>	<b>THMs, PotableWatR part# 702</b>
<b>AVERY 2X4 LABELS #5163, 1000/BX</b>	<b>LABORATORY FORTIFIED STOCK SOLUTION</b>	<b>TIN</b>
<b>Avery labels AVE5160 1x25/8</b>	<b>latex bulb, 2 mL Cat # 03-448-22</b>	<b>Tin 1000 ug/ml std</b>
<b>Avery labels AVE5163 2x4</b>	<b>LEAD</b>	<b>TITANIUM</b>
<b>AVERY LABELS AVE5520</b>	<b>Lead 1000 ug/ml std</b>	<b>Titanium 1000 ug/ml std</b>
<b>Avery labels AVE5520 1x25/8</b>	<b>lead in paint lot 000203- 7120 mg/kg</b>	<b>TK-100-01S-10X N-Hexane 1 x 1 mL</b>
<b>Avery labels AVE5523 Waterproof</b>	<b>lead in paint lot 016389-682 mg/kg</b>	<b>TKN 1000mg/L 125 ml part# 043</b>
<b>BADGER TAG &amp; LABEL CORP NFR LABEL</b>	<b>LG. WHITE NYLON GLOVES 8650-0030</b>	<b>toluene soultion</b>
<b>bakerbond speedisk H20-phobic DVB</b>	<b>L-Glutamic Acid, 500 g NC0469087 Cat # M756-07</b>	<b>Total Kjeldahl-Nitrogen (TKN) - 1000 mg/l, 125 ml PART #043</b>
<b>Bakerbond speedisk Octadecyl C 18 Cat # 50-877-64</b>	<b>Liquid/Gas Separator Cat#120-00416-1</b>	<b>Total Organic Carbon 1000mg/L 500 ml part# 978</b>
<b>Barbituric Acid 100g Fisher brand Cat# O1308-100</b>	<b>Liquid/Gas Sperator</b>	<b>Toxaphene QC # 700</b>
<b>BARIUM</b>	<b>LIQUI-NOX</b>	<b>Toxaphene WS # 844</b>
<b>Barium 1000 ug/ml std</b>	<b>LITHIUM</b>	<b>toxaphene, PotableWatR part# 700</b>
<b>BARNSTEAD MEGAPURE MP-1 BROILER BODY</b>	<b>Lithium 1000 ug/ml std</b>	<b>TOXAphe, Solution 4X1 ML PPS-240</b>
<b>Barnstead Ultrapure mixed-Bed Cartridge 09-034-14</b>	<b>Low Range COD Vials 150/case 2125815</b>	<b>TOXAPHENE,POTABLEWATR, #703</b>
<b>BASE GROUND GLASS W/STOPPER</b>	<b>M-504, 1-SET</b>	<b>Trace Metal Grade H2SO4; 2.5L HDPE bottle; CAT# A510-P212</b>
<b>Base Ground Glass w/stopperMillipore Filter Holder; 47MM Glass Vacuum Holder</b>	<b>MAGNESIUM</b>	<b>Trace Metal Grade HCL; 2.5L HDPE bottle; CAT# A508-P212</b>
<b>Battery 12V EVE A23PZ</b>	<b>Magnesium Chloride hexahydrate 500 gram bottle Cat #. M33-500</b>	<b>Trace Metal Grade HNO3; 2.5L HDPE bottle; CAT# A509-P212</b>
<b>BC1000 CUSTODY SEALS (1"X3.25") 250</b>	<b>Maleic Acid</b>	<b>trace metals sandy loam 7 lot dg023</b>
<b>BD 10 ML SYRINGE LUER LOK TIPS CS. OF 4PKS</b>	<b>Maleic Acid, Reagent Plus 500g poly bottle</b>	<b>Trace Metals, WasteWatR part# 500</b>
<b>BD 10ML SYRINGE LUER LOK TIPS</b>	<b>MANGANESE</b>	<b>Trace Metals, WasteWatR part# 586</b>
<b>BD Luer-Lok Tip Disposable Syringe w/out Needles</b>	<b>Manganese 1000 ug/ml std</b>	<b>TRAP, BLNK. 12"X18" (#0)</b>
<b>BEAKERS 50MI 01-291-10</b>	<b>MAPA Temp-Tec Ins. Neoprene Gloves Size 10 Length 14"</b>	<b>TRIAZINE PESTICIDES MIX</b>
<b>benzene solution</b>	<b>MARATHON GC/MS FILAMENT</b>	<b>TRIFLURALIN</b>
<b>BERNOMATIC 16.4OZ GAS CYLINDER</b>	<b>margin trowel</b>	<b>TRYPIC SOY BROTH</b>
<b>BERYLLIUM</b>	<b>MASS SPEC CLEANING KIT</b>	<b>TRYPIC SOY BROTH (PK. OF 10)</b>
<b>BLACK/BLACK 0.76 mm I.D PVC tubing</b>	<b>MAUSER POLY DRUM, OPEN HEAD, 30 GAL</b>	<b>TRYPIC SOY BROTH(PK. OF 10)</b>
<b>Black/White 3.18 mm i.d. PVC pkg.12</b>	<b>MAXIMUM REGISTERING THERMOMETER</b>	<b>TUBES # A17517</b>
<b>BNAE (HERB) CAL MIX 33211</b>	<b>MCH ASSY DRAIN PUMP TUBING</b>	<b>TUBES MICRO DIST USER FILL A17517</b>
<b>BNAE (SVOA) CAL MIX 31899</b>	<b>MCH ASSY SMPLR FLTR TIP PS200ii P/N 120-00277-1</b>	<b>tubes, micro dist user fil</b>
<b>BNAE INTERNAL/SURROGATE ISM-511X</b>	<b>MCH ASY L/G Drain</b>	<b>TUBES, MICRO DIST USER FILL</b>
<b>BNAE std for drinking waters</b>	<b>MCH ASY I/G Drain Cat#120-00433-1</b>	<b>Tubes, Micro Dist user fill Order #A17517</b>

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<b>BOD BUFFER PILLOWS #14861-66</b>	Mean Streak Marking Stick	<b>TUBING CUTTER</b>
<b>BOD Nutrient Buffer Pillows</b>	<b>MEMBRANE FILTERS</b>	<b>TUNGSTEN LAMP REPLACEMENT KIT FOR THE DR4000 # 4951600</b>
<b>BORON</b>	Mercury Lamps Cat#317-00048	Tungsten(VIS) Lamp replacement kitfor DR4000 CAT#4951600
<b>Boron 1000 ug/ml std</b>	Mercury QC cat# 666	Turbidity QC # 699
<b>Borosilicate Glass Pastuer Pipetts 13-678-20B</b>	Mercury Stock Standard 10ppm	<b>TURBIDITY STD #699</b>
<b>BROMATE STD</b>	Mercury Stock Standard 10ppm250mL Poly Part# 610-8002	Turbidity WS215 # 592
<b>Bromate Std AS-BRO39-2Y</b>	<b>MERCURY STOCK STD. 10PPM, 250ML POLY# 610-8002</b>	turbidity, PotableWatR part# 699
<b>Bromate Std ICBRO31-1</b>	Mercury WS 214 cat#551	turbovap tubes
<b>Bromide - 1000 mg/l, 125 ml CAT# 046</b>	Mercury, PotableWatR part# 666	<b>UHP HYDROGEN</b>
<b>Bromide 1000mg/L 125 ml part# 046</b>	Metals QC #697	UHP Hydrogen Cat# SGHYUHPT
<b>Bromide Std ICBR1-1</b>	Metals WS215 #590	<b>UHP HYDROGEN HYUHPT</b>
<b>bromide, bromate and chlorate, PotableWatR part#680</b>	metals, PotableWatR part# 697	UHP Hydrogen Cat # SGHYUHPT
<b>Buffer solution pH4 Red SB101-500</b>	Methanol 4L A452SK-4	<b>UHP HYDROGEN CAT# SGHYUPT</b>
<b>Buffer solution pH7 Yellow SB107-500</b>	<b>METHELYNE CHLORIDE</b>	UHP Oxygen
<b>BUNGEE CORDS</b>	Method 8260 additions M-8260-ADD 1x1mL	<b>UL-CALQC-3; 125mL poly bottle</b>
<b>C-18 SPEEDISK, CAT# NC9846576</b>	Method 502.2 - VOC Standard 1x1 mL Cat# M-502	<b>ULTEM SIPPER PROBE 13297100</b>
<b>C4011-72 1.5ml vials with snap caps.</b>	method 504	<b>ULTRA ABSORBANT COTTON BALLS</b>
<b>CABLE TIES</b>	<b>METHOD 504.1 SET STD 3X1ML</b>	<b>ULTRACheck WS Pesticides #2 Sample 1 X 2 mL</b>
<b>CADMIUM</b>	<b>METHOd 525.2 SEMIVOLATILE MIX</b>	<b>Unregulated Volatiles QC cat # 683</b>
<b>Cadmium 1000 ug/ml std</b>	Method 8260 Additions 1 x 1 mL	<b>Unregulated Volatiles WS 218 cat # 841</b>
<b>CAL STD 2</b>	<b>METHYL TERT-BUTYL ETHER</b>	<b>Unregulated Volatiles, PotableWatR part# 683</b>
<b>CAL STD 2A</b>	<b>METHYLATED HERB STD MIX</b>	<b>UNREGULATED VOLATILES,POTABLEWATR,# 683</b>
<b>CAL STD 3</b>	<b>METHYLATED HERB TCLP MIX</b>	<b>UVP Model UVL-56 BLAK-RAY LAMP</b>
<b>CAL STD 4A</b>	<b>METHYLENE CHLORIDE</b>	<b>Vacuum Pump Aspirator PP Pet tubn 09-960-2</b>
<b>CAL STD 4B</b>	Methylene Chloride (Optima) Case of 4X4L	<b>VANADIUM</b>
<b>CAL STD 5</b>	methyl-tert-butyl ester solution E127-4	<b>Vanadium 1000 ug/ml std</b>
<b>CALCIUM</b>	<b>M-FC BROTH W/ ROSOLIC ACID</b>	<b>VOA Borosilicate 40 mL clear vials (case of 144) 05-719-106</b>
<b>CALIBRATION STD 1A</b>	Micro Dist Tubes user fill # A17517	<b>VOA Borosilicate 40 mL clear vials (case of 144) 14-209-60</b>
<b>CAPILLARY GRADE HYDROCARBON TRAP 1/8" NICKEL PLATED BRASS</b>	Microflex Black Powder-Free Nitrile Gloves L 19-168-967	<b>VOA Mix Cat# M-502 1x1 mL</b>
<b>CARBAMATE STD</b>	Microflex Black Powder-Free Nitrile Gloves XL 19-168-967E	<b>VOA TRAP#9 14-9908-403</b>

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Carbamate Std 100 mg/L PPM-530-1	Microflex Diamond Grip L, Item # 121945L	VOC Mix 1 x 1 mL Cat#DWM-580-1
Carbamate Std 100mg/L PPM-530-1	Microflex* Diamond Grip* Powder Free Latex Gloves	VOC MIX 1X1
Carbamates, PotableWatR part# 707	Micro-reaction vessel 1mL Pack of 12	VOC Mix 1x1 ml cat # DWM-580
Carbon Standard (Organic) 1000 ppm Cat # 1847-16	MILLI-PORE FILTER HOLDER 47MM GLASS VACUUM HOLDER,, WHATMAN QUANTITATIVE GRADE PAPERS, GRADE 41; DIAMETER: 15CM (PK 100)	VOC Mix 1x1 ml cat # DWM-580-1
carbonate Eluent Generator Cartridge (EGC III K2CO3) #074536	Millipore Glass Fiber PreFilter AP400470	VOC Mix 4 x 1 mL
cassette for pump head	MILLIPORE HPD MILLEX NON STERILE SYRINGE FILTERS, PK OF 50	VOC Mix 4x1 ml cat # DWM-580
cat # 01184150B case of 4 1G Pump Oil	Millipore HPD Millex NonSterile Syringe Filters pk of 50	VOC MIX 4X1ML CAT# DWM-580
Cat # 02273 Drain Valve For E-Pure REPLACEMENT # 09-105-100	Millipore HPD Millex NonSterile Syringe Filters pk of 50 Cat # SLHNM25NS	VOC Mixture 4x1mL Cat # DWM-580
CAT # 08-572H 2000 ML POLYPROPYLENE CYLINDER	Millipore hpf Millex Nonsterile Syringe Filters, Pk of 50 SLHN M25 NS	VOC Mixture 5x1 ML Cat# M-502-REG-PAK
Cat # 13-0790319 Orion pH 10.01 Buffer	Millipore HPF Milliex non sterile Syringe Filters SLHNM25NS	VOC Mixture DWM-580
Cat # 15-176-222 YSI Zobell ORP Calibration Solution, (Plastic Bottle, 125 mL)	Milli-Q Organic Free Kit CF0F 01 05	Volatiles Matrix Spiking Solutio 1 x 1 mL
Cat # 5464516 Ricca Chemical ORP Standard 200 mV (Amber Glass, 500 mL Bottle)	Mineral Stabilizer, (50 mL)*PLEASE Request Longest Expiration Date Possible	Volatiles Matrix Spiking Solutio 1 x 1 mL Cat # CLP-102
CAT # CLP-209X, PEST MATRIX SPIKE MIX	Minigrip recloable bags 4x6 2MII 1000 bags cat# 90022	Volatiles Matrix Spiking Solutio 4 x 1 mL
CAT # CLP-216-1, PESTICIDE MIX A	Mininert valve screw thread 15-425 pack of 12	VOLATILES MATRIX SPIKING SOLUTION
CAT # CLP-226B-1, PESTCIDES MIX B	MININERT VALVE, 13mm	Volatiles Mixture 4x1 mL cat # PMX-146
CAT # CLP-240-1, PEST RESOLUTION CHECK MIX	Mixing Coil	Volatiles Mixture PMX-146 1x1 mL Cat # PMX-146
CAT # CLP-250, PEST PERFORMANCE EVAL MIX	Mixing Coil Cat#120-00415-1	VOLATILES SPIKING SOLUTION
Cat # D3750 Final Filter for E-Pure	MOISTURE TRAP	VOLITILES MIX PMX-146 4X1 ML
Cat # D50228 OrganicPure Cartridge Kit for E-Pure	MOLECULAR SEIVE REFILL	WASH BOTTLES- DEIONIZED WATER
Cat # GSX28 O-Rings for E-Pure	MOLYBDENUM	Waste Tubing Assembly
cat # HBM-5154A-1, HERB CAL STD	Molybdenum 1000 ug/ml std	WasteWatR™ Coliform MicrobE part# 576
CAT # ISM-321X, PEST SURROGATE STANDARD	MP-1 BOILER DRAIN TUBING	WATERPROOF TARP
Cat No. 018157 SCIENCEWARE CLAVIES Autoclavable Polypropylene Bags (12" x 24")	MP-1 CONSTANT LEVEL OVERFLOW TUBING	web foot mop
Cat# 05-719-337 thermos scientifi custody seals	MP-1 DRAIN T	weighing dish 08-732-101
Cat# 11-462-67D Diamond Gloves LG	MP-1 DRAIN TUBING	wet mop slide gate handle
CAT# PPM-525F	MP-1 DRAIN TUBING, PN 927838 1/2"	Whatman 15cm fileters 09-805G



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<b>CAT#02-963C NALGINE CARBOY W/SPIGOT 13GAL</b>	<b>MSD INTERFACE NUTS</b>	<b>WHATMAN 15CM FILTERS</b>
<b>CAT#21837-027 LIQUI-NOX</b>	<b>MTBE 1X1 ML S-078-10X</b>	<b>whatman grade 40 filters</b>
<b>CAT#77050009 GEOTECH L/S SIZE 24 SILICON TUBING</b>	<b>MTBE 1X1ML</b>	<b>Wheaton 100µL Pipette Microtips 03-400-11 No.:851179-02</b>
<b>CAT#77050502 3/8" ODX1/4" ID POLY TUBING</b>	<b>MTBE Cat# 30402 1.1 mL</b>	<b>WHEATON BOD BOTTLE CAPS</b>
<b>Cat. # 02-963C Nalgene Carboy with Spigot 13 gal (50L)</b>	<b>MTBE HPLC Grade cat# E127-4</b>	<b>WHEATON BOD BOTTLES W/ PENNYHEAD STOPPERS CASE OF 24 ITEMS WILL BE PICKED UP BY JOHN HUGHES</b>
<b>Cat. # 1836-99 Phenol 2 Reagent, Pk/100</b>	<b>MTBE, 4L Bottle</b>	<b>WHEATON BOD RACK FOR 12 BOTTLES</b>
<b>Cat. # 424-49 Buffer Solution Hardness 1 500 mL</b>	<b>Multicomponent Anion Standard 100 mL</b>	<b>WHEATON DISPOSABLE GLASS COLIWASA SAMPLER</b>
<b>Cat. No. 02-686-202B DILU-LOK Dilution Vials case of 50</b>	<b>Multi Element Internal Standard</b>	<b>Wheaton Disposable Glass Coliwasa Sampler (cs/12) 14-209-60</b>
<b>Cat. No. 02-963C Nalgene Carboy with Spigot 13 gal. (50L)</b>	<b>MULTI ELEMENT INTERNAL STD 10PPM</b>	<b>White Weatherproof Shipping Labels 1" X 2 5/8" AVE5520</b>
<b>CAT. NO. 78002 CONBAR BAILER RETRIEVER</b>	<b>MULTI-ANION STD IN WATER IC-2 100ML</b>	<b>WKIT 1001 QUANTI-CULT</b>
<b>Cat. No. WKIT 1001 Quanti-Cult</b>	<b>MULTI-ANION STD IN WATER IC-2 100ML 1000PPB</b>	<b>WS 169 Herbicides part# 851</b>
<b>Cat. No. WP104 Colilert P/A Comparator w/vessel</b>	<b>MULTICOMPONENT ANION STD 100ML NC9831417</b>	<b>WS 169 residual chlorine part# 593</b>
<b>Cat. No. WP200 Colilert P/A for 100 mL samples</b>	<b>Nalgene Carboy with Spigot, 13 gal. (50 L) 02-963C</b>	<b>WS 171 COLIFORMS PART 080</b>
<b>Cat. No. WV102SBST-200 Shrink-Banded 120 mL Disposable Vessels with sodium thiosulfate (Box of 200)</b>	<b>Nalgene Carboy with Spigot, 13 gal. (50 L) 02-963C</b>	<b>WS 176 cyanide part# 556</b>
<b>CD-R Disks IVR77950</b>	<b>NALGENE LAB BOOKS GREEN</b>	<b>WS 176 hardness part# 555</b>
<b>Celite 545 filter Aid not acid washed # C212-500. 500g</b>	<b>NALGENE LAB NOTEBOOKS W/POLYPAPER PAGES</b>	<b>WS 176 inorganic disinfection 1 part# 5270</b>
<b>CERIUM</b>	<b>Nalgene Poly Beaker 02-591-10C</b>	<b>WS 176 inorganic disinfection 2 part# 5260</b>
<b>CERT. GLASS FIBER FILTERS 100/PK PORE SIZE: 0.1U</b>	<b>Nalgene Premier 32oz/1000mL wide- mouth bottles</b>	<b>WS 176 metals part# 590</b>
<b>CG-Be1-1; 125mL poly bottle</b>	<b>Nalgene Premier 8oz/250mL wide- mouth bottles</b>	<b>WS 176 nitrite part# 594</b>
<b>CG-Ca1-1; 125mL poly bottle</b>	<b>Nalgene* Unitary* Wash Bottle (Pack of 2) Capacity 32 oz. (1000 mL)</b>	<b>WS 176 organic carbon part# 557</b>
<b>CG-Co1-1; 125 mL poly bottle</b>	<b>naphthalene solution</b>	<b>WS 176 phosphate part# 558</b>
<b>CG-Fe1-1; 125mL poly bottle</b>	<b>NC0759725 TUBING, 10 " SECTION</b>	<b>WS 177 Carbamates part# 846</b>
<b>CG-K1-1; 125mL poly bottle</b>	<b>NC0759726 TUBING. 4' SECTION 24.64 73.92 3 VENDOR DIRECT SHIP</b>	<b>WS 177 EDB part# 847</b>
<b>CG-Mg1-1; 125mL poly bottle</b>	<b>NESSLER REAGENT 500ML</b>	<b>WS 177 HAA part# 852</b>
<b>CG-Na1-1; 125mL poly bottle</b>	<b>NFR PIN-FEED LABEL #8AAR8</b>	<b>WS 177 Herbicides part# 851</b>
<b>CG-P1-1; 125mL poly bottle</b>	<b>n-Hexane Cat# TK-100-01S-10X 1X1 MI</b>	<b>WS 177 Inorganics part# 591</b>
<b>CHECKERED FLAGGING TAPE, WH/ ORA</b>	<b>NICKEL</b>	<b>WS 177 Mercury part# 551</b>
<b>CHEM. OXYGEN DEMAND 1000MG/L 500ML #974</b>	<b>Nickel 1000 ug/ml std</b>	<b>WS 177 Perchlorate part# 903</b>
<b>Chemglass Drum &amp; Carboy Funnels: 14.1 L; Top Diameter 353mm Chemglass No.: CG-1766-03</b>	<b>NICKEL SAMPLER CONE</b>	<b>WS 177 pH part# 552</b>

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<b>CHLORADANE, POTABLEWATR, #705</b>	<b>NICKEL SKIMMER CONE</b>	<b>WS 177 silica part# 902</b>
<b>CHLORATE STD</b>	<b>Nitrate - 1000 mg/L, 125 ml CAT# 052</b>	<b>WS 177 turbidity part# 592</b>
<b>Chlorate Std AS-CLO39-2Y</b>	<b>NITRATE 1000MG/L 125 ML #053</b>	<b>WS 178 Semi-Volatiles #1 part# 848</b>
<b>Chlorate Std ICCLO31-1</b>	<b>Nitrate as N 1000mg/L 125 ml part# 052</b>	<b>WS 178 Semi-Volatiles #2 part# 849</b>
<b>Chlordane QC # 705</b>	<b>NITRIC ACID TRACE MTL 2.5L A509-P212</b>	<b>WS 179 bromide, bromate and chlorate part# 560</b>
<b>CHLORDANE SOLUTION 4X1 ML PP-151</b>	<b>NITRIFICATION INHIBITOR FOR BOD</b>	<b>WS 179 Carbamates part# 846</b>
<b>Chlordane WS # 845</b>	<b>Nitrite 1000mg/L 125 ml part# 053</b>	<b>WS 179 Herbicides part# 851</b>
<b>chlordan, PotableWatR part#705</b>	<b>Nitrite QC #695</b>	<b>WS 181 chlordan part# 845</b>
<b>Chloride 1000mg/L 500 ml part# 988</b>	<b>Nitrite WS # 594</b>	<b>WS 181 COLIFORM</b>
<b>CHLORINATED HERBICIDES MIX</b>	<b>nitrite, PotableWatR part# 695</b>	<b>WS 181 coliform microbe part# 080A</b>
<b>Chlorinated Herbicides Mix 1 X 1 mL</b>	<b>Nitrogen, Ammonia Standard Solution</b>	<b>WS 181 Herbicides part# 851</b>
<b>CHLORINATED HERBICIDES MIX 4X1 ML. HBM-5157A</b>	<b>NITROSAMINES</b>	<b>WS 181 PCBs part# 839</b>
<b>Chlorinated Herbicides Mix Cat # HBM-5157A 1 X 1 mL</b>	<b>Non-Catalog M-FC Broth w/o Rosolic Acid pk of 50</b>	<b>WS 181 Pesticides part# 850</b>
<b>CHLORINE DIOXIDE REAGENT 1 100mL</b>	<b>nozzle fitting</b>	<b>WS 181 Regulated volatiles part# 840</b>
<b>CHLORINE DIOXIDE REAGENT 2</b>	<b>Nozzle plug holder</b>	<b>WS 181 residual chlorine part# 593</b>
<b>CHLORINE DIOXIDE REAGENT 3</b>	<b>nozzle plug holder cap</b>	<b>WS 181 THMs part# 842</b>
<b>CHLORITE STD</b>	<b>nozzle plug o-ring</b>	<b>WS 181 toxaphene part# 844</b>
<b>Chlorite Std AS-CLO29-2Y</b>	<b>O/G standard, 10 mL tubes. 40 mg HEM 20 pack Cat # G3025</b>	<b>WS 181 Unregulated Volatiles part# 841</b>
<b>Chlorite Std ICCLO21-1</b>	<b>o/g standard, 10ml tubes</b>	<b>WS 183 Herbicides part# 851</b>
<b>CHROMIUM</b>	<b>O120 o-Phthalaldehyde, 5 g</b>	<b>WS 183 Pesticides part# 850</b>
<b>CLAVIS AUTOCLAVABLE POLYPROPYLENE BAGS</b>	<b>Oil and grease std. 10ml. Tubes, 20pk</b>	<b>WS 183 Regulated volatiles part# 840</b>
<b>Clear Borosilicate Glass; 40mL Economy Pack</b>	<b>ON-COLUMN SYRINGE BARREL</b>	<b>WS 183 THMs part# 842</b>
<b>Clear Target ID vial 2ml 100pk #03-375-3R</b>	<b>o-Phosphate QC # 667</b>	<b>WS 183 Unregulated Volatiles part# 841</b>
<b>Cllorophyll A STD 1MG Amp Cat #NC9759373</b>	<b>o-Phosphate WS # 558</b>	<b>WS 188 cyanide part# 556</b>
<b>CLP PESTICIDE COLUMN</b>	<b>o-Phosphate WS 214 cat# 558</b>	<b>WS 188 hardness part# 555</b>
<b>CLP SVOA STD KIT</b>	<b>o-Phthalaldehyde (OPA) Diluent for Carbamate CB910</b>	<b>WS 188 inorganic disinfection 1 part# 5270</b>
<b>CLP-102 Volatiles Matrix Spiking Solution 4X1 mL</b>	<b>o-Phthalaldehyde (OPA) Diluent for Glyphosate GA104</b>	<b>WS 188 inorganic disinfection 2 part# 5260</b>
<b>CLPP-ICS-A</b>	<b>Organic Carbon Standard Cat # 1847-16</b>	<b>WS 188 metals part# 590</b>
<b>CLPP-ICS-B4</b>	<b>Organic Carbon Std 1000ppm Ricca 1847-16</b>	<b>WS 188 nitrite part# 594</b>
<b>CLPP-SPK-2; 125mL poly bottle</b>	<b>Organic Carbon WS #557</b>	<b>WS 188 organic carbon part# 557</b>
<b>COBOLT</b>	<b>organic carbon, PotableWatR part# 669</b>	<b>WS 188 phosphate part# 558</b>
<b>COD DIGESTION VIALS</b>	<b>ORGANOCHLORINE PEST MIX</b>	<b>WS 189 Carbamates part# 846</b>
<b>COLD PACK</b>	<b>organochlorine pesticides mix 1 X 1 mL</b>	<b>WS 189 EDB part# 847</b>
<b>Cold-Pak Fee</b>	<b>ORGANOCHLORINE PESTICIDES MIX 4X1ML PPM-525F</b>	<b>WS 189 HAA part# 852</b>
<b>coliform microbe, PotableWatR part#694</b>	<b>Orion 9107BNMD Triode Low Maintenance pH/ATC</b>	<b>WS 189 Herbicides part# 851</b>

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<b>COLIFORMS POTABLEWATR PART 694</b>	<b>Orion ORP epoxy refillable Triode</b>	<b>WS 189 Inorganics part# 591</b>
<b>COLILERT, P/A FOR 100ML</b>	<b>Orion ORP Low Maintenance Triode Electrode</b>	<b>WS 189 Mercury part# 551</b>
<b>Color pHast Strip&gt;0-14 pH Range EMD(9590-3) (12/pk)</b>	<b>Orion ORP Standard, 475 mL bottle</b>	<b>WS 189 pH part# 552</b>
<b>COMB GLASS ELECTRODE-SGJ</b>	<b>Orion pH 10.01 Buffer</b>	<b>WS 189 turbidity part# 592</b>
<b>Combination Lock - Shackle Deminsions: 5/16" x 2 1/4" x 1"</b>	<b>Orion pH 10.01 Buffer 13-079-319</b>	<b>WS 190 nitrite part# 594</b>
<b>Commercial Grade Packing Tape DUC240054</b>	<b>Orion pH 4.01 Buffer</b>	<b>WS 190 Semi-Volatiles #1 part# 848</b>
<b>COMPRESSED AIR # SGAI10K</b>	<b>Orion pH 4.01 Buffer 13-301-133</b>	<b>WS 190 Semi-Volatiles #2 part# 849</b>
<b>COMPRESSED OXYGEN</b>	<b>Orion pH 7.00 Buffer</b>	<b>WS 192 chlordanes part# 845</b>
<b>Compressed Oxygen Cat# SGOXUHPT</b>	<b>Orion pH 7.00 Buffer 13-641-857</b>	<b>WS 192 coliform microbe part# 080A</b>
<b>COMPRESSED OXYGEN SGOXUHPT</b>	<b>Orion pH electrode Storage Solution 60 mL bottle CAT # 09-357-67</b>	<b>WS 192 coliform microbe part# 080B</b>
<b>Concentric Nebulizer Cat # NC9612101 Thermo # 842312051431</b>	<b>Orion Triode Combination Electrode/ATC Probe</b>	<b>WS 192 PCBs part# 839</b>
<b>Concoa valve, P/N COA 432-4301- 350, Regulator</b>	<b>orion triode combo ph electrode/atc probe</b>	<b>WS 192 Perchlorate part# 903</b>
<b>Conductivity STD 09-328-2</b>	<b>ORP STANDARD PRINT (475ML) 13-614-210</b>	<b>WS 192 Pesticides part# 850</b>
<b>CONTOUR FLARED END PVC PUMP TUBING</b>	<b>OUTER QUARTZ TUBE</b>	<b>WS 192 Residual Chlorine part# 593</b>
<b>Contour-Flared End PVC pump tube 2 tag 0.64 mm ID Orange/White</b>	<b>Oven thermometer S97424</b>	<b>WS 192 Silica part# 902</b>
<b>Contrex AP powdered Labware Detergent</b>	<b>oxygen trap</b>	<b>WS 192 toxaphene part# 844</b>
<b>Copper 1000 ug/ml std</b>	<b>P5 (5% METHANE/ 95% ARGON)</b>	<b>WS 193 HERBICIDES PART# 851</b>
<b>COPPER SULFATE PENTAHYDRATE</b>	<b>pack of 12 (0.51 mm ID) Red tubing</b>	<b>WS 193 Regulated volatiles part# 840</b>
<b>COPPER TUBING 1/4 IN.</b>	<b>pack of 12 (1.85 mm ID) black tubing</b>	<b>WS 193 THMs part# 842</b>
<b>COPPER TUBING 1/8 IN.</b>	<b>pack of 12 blue tubing</b>	<b>WS 193 Unregulated Volatiles part# 841</b>
<b>COPPERTOP 11 BATTERIES DURMN1500B24</b>	<b>Page Markers #MMM6705AN</b>	<b>WS 195 PESTICIDES #850</b>
<b>Corning Conical-bottom Glass Centrifuge Tubes 05-538-30A</b>	<b>PAH Mixture 1 X 1 mL</b>	<b>WS 195 TOXAPHENE #844</b>
<b>Crimp cap w/red rubber insert for 2mL vial pack of 100</b>	<b>PALL GELMAN PETTI DISH</b>	<b>WS 200 cyanide part# 556</b>
<b>CRIMP CAPS, SILICONE/TEFLON, 11mm</b>	<b>PALL GELMAN STERILE PETRI DISH</b>	<b>WS 200 hardness part# 555</b>
<b>Crystalline Sodium Chloride, Certified ACS</b>	<b>Part No. 90130, 4" x 6", 500 Bags/carton, 6-Mil</b>	<b>WS 200 inorganic disinfection 1 part# 5270</b>
<b>CS 1000mL Nalgene bottle 03-313- 6D</b>	<b>Part No. 90134, 6" x 8", 500 Bags/carton, 6-Mil</b>	<b>WS 200 inorganic disinfection 2 part# 5260</b>
<b>CS DILU-LOK PHOS BFR WM99ML 50/CS 02-686-202B</b>	<b>Part No. 90138, 8" x 10", 500 Bags/ Carton, 6- Mil</b>	<b>WS 200 metals part# 590</b>
<b>CS/4 Sodium Sulfate 2.5Kg cat# S415-212</b>	<b>Part Number 610-8002 Mercury standard at 10 ppm</b>	<b>WS 200 nitrite part# 594</b>
<b>CS/PK OF 100 PTFE STIR BARS 14-513-93</b>	<b>PCB congener mix, cat # 32420</b>	<b>WS 200 organic carbon part# 557</b>
<b>CUPRIC SULFATE PENTAHYDRATE</b>	<b>PCB WS216 #839</b>	<b>WS 200 phosphate part# 558</b>

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Curwood Parafilm Laboratory Wrapping Film 2inW X 250ft Long Cat#13-374-16	PCBs AS DECACHLOROBIPHENYL ,POTABLEWATR,#708	WS 201 Carbamates part# 846
CUS-9438 Custom Standard - Quote#072613-623 1 x 1 MI	pcbs potable watr, part# 708. study 171	WS 201 EDB part# 847
CUSTOM INT STD	PCBs, PotableWatR part# 708	WS 201 HAA part# 852
CUSTOM QC STD	PELL GELMAN STERILE PETRI DISH	WS 201 Herbicides part# 851
Custom Standard Cat# CUS-9439	PERCHLORATE STD	WS 201 Inorganics part# 591
Custom Standard #CUS-9438 1x1 mL	Perchlorate Std AS-CLO49-2Y	WS 201 Mercury part# 551
custom Standard #CUS-9439 1x1 mL	Perchlorate Std ICCLO41-1	WS 201 Perchlorate part# 903
Cyanide QC #983	Perchlorate, PotableWatR part# 910	WS 201 pH part# 552
Cyanide WS 218 cat #556	Perf Eval mix	WS 201 silica part# 902
Cyanide WS215 #556	Permanent Marker	WS 201 turbidity part# 592
cyanide, PotableWatR part# 983	Permanent Marker Sharpie Fine SAN30002 red	WS 202 Regulated volatiles part# 840
CYCLO-SPLITTER LINER	PERSONAL EYEWASH	WS 202 Semi-Volatiles #1 part# 848
cyclosplitter, 5pk	PEST A MIX 4PK	WS 202 Semi-Volatiles #2 part# 849
cylinder restraint brackets, Cat# NC9075833	PEST B MIX 4PK	WS 202 THMs part# 842
Cylinder, Graduated, Mixing, 25mL, Certified	PEST PERF EVAL MIX 4PK	WS 202 Unregulated Volatiles part# 841
DALAPON METHYL ESTER	PEST RES CHECK 4 PK	WS 204 chlordane part# 845
dalapon methyl ester solution	PEST SPIKE MIX	WS 204 coliform microbe part# 080A
DBOD internal std	PEST SURROGATE MIX 4PK	WS 204 coliform microbe part# 080B
DC MODULE PM KIT PN: 061796	PEST TCLP MIX	WS 204 Herbicides part# 851
DCAA (2,4- DICHLOROPHENYLACETIC ACID) 4X1 ML #PPS-162	PESTICIDE CAL SOL'N	WS 204 metals part# 590
DECACHLOROBIPHENYL 32029	PESTICIDE CHECK SOL'N	WS 204 PCBs part# 839
DECHLORINATING REAGENT	PESTICIDE COLUMN KIT 11197	WS 204 Pesticides part# 850
DEXTROSE ANHYDROUS 500 GRAM NC9477473 Cat # 191601	PESTICIDE MIX	WS 204 Residual Chlorine part# 593
diazald - 99% (Aldrich) 1 X 25g #D2800-25G	PESTICIDE MIX #2	WS 204 toxaphene part# 844
DIAZINON CAT# PST-320AS	Pesticide Surrogate Cat # ISM-321X 100mL	WS 204 turbidity part# 592
DIAZOMATHANE-GENERATOR # Z411736	Pesticide Surrogate Cat# ISM-321X	WS CHLORADANE #845 (STUDY 168)
Dichlorofluoromethane solution # CFC-130	Pesticides WS 218 cat# 850	WS coliforms
DICHLOROACETATE STD	pesticides matrix spiking solution	WS HAA
dichlorofluoromethelene solution CFC-130	PESTICIDES POTABLE WTR #709	WS HALOMETHANES(THMs), #842
DICLOROACETATE # ICDCA-S- 5	Pesticides QC cat# 709	WS PCBs AS DECACHLOROBIPHENYL # 839
DIETHYLENE GLYCOL-99% #537616-100ML	pesticides surrogate std. spiking solution	ws pcbs part# 839 study 171
DIFFUSION PUMP OIL	Pesticides, PotableWatR part# 709	WS pesticides part #850, study 171
DIGESTION VESSEL WITH SCREW CAP 50ML	pesticides, potablewatr part#709,study171	WS pesticides part #850, study 172
Dilu-Lok Dilution Vials (Case of 50)	PESTicides, potablewatr part#709,study172	WS PESTICIDES, # 850

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Disposable Beaker Graduated 50mL(100/pk) Cat # 01-291-10	PESTICIDES, POTABLEWATR, # 709	WS Quik Response Regulated volatiles part# 703QC
DISPOSABLE LATEX GLOVE, L	PF LATEX SAFETY ZONE GLOVES	WS Quik Response THMs part# 702QC
DISPOSABLE PIPETS 9 IN. # 13-678-20D CS. OF 1440	PF LATEX SAFETY ZONE GLOVES WLX-EX-PF-SZ-M	WS Quik Response Unregulated Volatiles part# 683QC
DMRQA 31 complete set part# 174	pH QC cat #779	WS REGULATED VOLITALES, # 840
DMRQA 31, QC partner part# 108	pH WS 214 cat# 552	WS SILICA PART#902
DMRQA 32 COMPLETE SET 174	pH, PotableWatR part# 779	WS TOXAPHENE, #844
DMRQA QC Complete kit # 108	PHENOL REAGENT PILLOWS #872-99	WS UNREGULATED VOLATILES,#841
DMRQA QC MICRO 83 #083	PHM-5521M-1 Methylated HAA mix 1x1 mL	WV120SBST-200, VESSESL W/S
DMRQC QC Minerals #506	PHM-552A HAA MIX 1X1 ML	WW-CAL-1A; 125mL poly bottle
DPD Free Chlorine Reagent for 10 mL Sample (pk/100)	phm-552a Haloacetic Acids Mixture 1 x 1 mL	WW-CAL-2; 125mL poly bottle
Drain nipple for automatic connectors	Phosphate as P 1000mg/L 500 ml part# 993	WW-CAL-3; 125mL poly bottle
DRAIN TUBE	phosphate, PotableWatR part# 667	WW-CAL-4A; 125mL poly bottle
DRINKING WATER HERB	PHOSPHOROUS	WW-CAL-4B; 125mL poly bottle
DRRACELL COPPERTOP C	Phosphorous 1000 ug/ml std	WW-CAL-5; 125mL poly bottle
DRY FLOW MOISTURE TRAP	Pickering Thiofluor 3700-2000	WW-IPC-1; 125mL poly bottle
Drying Tube/Nafion Dehydration Tube	PICLORAM SOLUTION	WW-IPC-2; 125mL poly bottle
Drying Tube/Nafion Dehydration Tube Cat#120-00281-1	PK 100 FLTR STR 47 MM	WW-LFS-2; 125mL poly bottle
DUO STD	PK 150 PTRI-PAD 47 MM STR	WW-MSCAL1; 125mL poly bottle
DURAC OVEN THERMOMETER	PK 50 M-FECAL COLIFORM	WW-MSCAL-2; 125mL poly botle
DURACELL 9 V BATTERY	pK AVE23080 DIVIDERS	Wypall 47000 L20 fold sheet
Duracell AAA batry DURMN2400B24000	Platinum Sampler Cone	wypall Kim Wipes KCC47000
Duracell coppertop 9-VOLT batteries DURMN1604BKD	PMX-146-1 Volatiles Mixture 1 x 1 mL	XPEDX Aluminum Foil HEAVY
Duracell coppertop AA batteries DURMN1500B24	pointing trowel	Y connector for gas tube
Duracell coppertop AAA batteries DURMN2400B24000	POLY TUBING #77050502	YSI Conductivity Solution (8 Pints/Case)
Duracell coppertop C batteries DURMN14RT8Z	POLYETHELENE 5 GAL. PAILS	ZB-MULTIRESIDUE-1
Duracell coppertop D batteries DURMN1300	Polyethylene 5 gallon pails white	ZB-MULTIRESIDUE-2
DVD Spindle 50ea IVR 46850	Polyvinyl Alcohol Dispersing Agent, (50 mL)*PLEASE Request Longest Expiration Date Possible	Zebron ZB Semivolatiles 7HK-G016-17 column 30M X 0.25mm X 0.25um
DVR-R Disks	PotableWat Coliform MicrobE WS216 #080A	ZEBRON ZB-MULTI RESIDUE 1- COLUMN
DZ GAL PAINT CANS W/LID& HANDLE 1837	POTASSIUM	ZEBRON ZB-MULTI RESIDUE 2- COLUMN
	Zinc 1000 ug/ml std	Zero Air Cat# SGAI10k
	ZINC ACETATE	ZINC

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## APPENDIX C DEFINITIONS AND ACRONYMS

### **Abandoned Facility**

Inactive facility for which there is no reactivation plans. Facility systems and collateral equipment will be considered for excess or identified for use at other NASA locations where it is feasible and cost effective.

### **Active Facility**

Any facility that has a specific and present or near-term requirement. Space utilization would normally be at least 50 percent, and/or the usage level exceeds 50 percent of the available time for use.

### **Annual Work Plan (AWP)**

A short-range plan that assist a facility maintenance manager/engineer in establishing/meeting goals within projected resources.

### **Annually (A)**

Services performed once during each 12-month period of the contract at intervals of 345 to 365 days.

### **Approved Purchasing System**

A Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

### **Architectural**

Includes (interior/exterior): doors; windows; flooring (coatings and coverings); stairs and stairwells; interior walls, ceilings, and partitions.

### **As-Built**

Updating the facility drawings to accurately depict existing conditions in the field.

### **Augmentation**

The Contractor shall define the method to be used to augment the core work force to handle additional work for each sub-Annex.

### **Availability**

The ability of a system, subsystem, or piece of equipment, to perform its intended function and deliver its intended output during operating periods.

### **Availability Loss**

The inability of a system, subsystem, or piece of equipment, to perform its intended function and deliver its intended output during operating periods.

### **Biennially**

Also called 2-year Frequency. Activities accomplished one time during each 24 month period of the contract, at intervals of 23 to 25 months.

### **Break Rooms**

Areas designated by NASA for food and beverage consumption (i.e., canteens, vending areas, etc.)

### **Buffer Zone**

An area of 125,071 acres surrounding the fee area. All activities within all portions of this zone are subject to specific easement provisions. These provisions specify that habitable buildings cannot be erected, however, farming, raising livestock, pulpwood and timber operations, and mining activities are allowed.

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### **Building Specialty**

Includes but not limited to installed equipment within the facility such as food service and processing equipment; appliances; elevators; automatic doors; roll-up doors; blast doors; vehicle gates; waste disposal equipment; shop equipment and hoists.

### **Capital Equipment**

An item of equipment with an acquisition cost of \$5,000 or more that has an estimated service life of 2 years or more, which will not be consumed in an experiment, and which generally will be identified as an independently operable item.

### **Certificate of Completion (COC)**

A document that is completed during the project closeout phase that provides verification that a construction project is completed and all supporting documentation has been submitted into DDMS. COC documentation is also required when equipment is replaced and new vendor data is available. At Stennis, form SSC-625 is used to capture the required verification information as described in SSTO-8070-0009-CONFIG.

### **Close Call (CCRS and SCRS)**

The discovery and reporting of conditions and/or situations which, if not corrected, have the potential to result in an injury to personnel or damage to equipment/property.

This type of close call is tracked in the NASA provided Safety Concerns and Reporting System (SCRS) at MAF and the Close Call Reporting System (CCRS) at SSC.

### **Close Call**

An event *has occurred* in which there is no injury or only minor injury requiring first aid and/or no equipment/property damage or minor equipment/property damage (less than \$1000), but which possesses a potential to cause a mishap. This type of close call is tracked in the NASA Mishap Information System (NMIS).

### **Collateral Equipment**

Encompasses building-type equipment, built-in equipment, and large, substantially affixed equipment/property and is normally acquired and installed as part of a facility project.

- (a) **Building-Type Equipment**. A term used in connection with facility projects to describe equipment that is normally required to make a facility useful and operable. It is built in or affixed to the facility in such a manner that removal would impair the usefulness, safety, or environment of the facility. Such equipment includes elevators; heating, ventilating, and air conditioning systems; transformers; compressors; and other like items generally accepted as being an inherent part of a building or structure and essential to its utility. Such equipment also includes general building systems and subsystems such as electrical, plumbing, pneumatic, fire protection, and control and monitoring systems.
- (b) **Built-in or Large, Substantially Affixed Equipment**. A term used in connection with facility projects of any type other than building-type equipment that is to be built in, affixed to, or installed in real property in such a manner that the installation cost, including special foundations or unique utilities service, or the facility restoration work required after its removal is substantial.

### **Commissioning**

A quality process emphasizing procedures to ensure that systems are designed, installed, functionally tested, and capable of being operated and maintained to perform in conformity with the owner's project requirements.

**Common Use Areas**

Facilities and/or portions of facilities, to which access is afforded and which are constructed, maintained and operated specifically for, but not incidental to, the benefit of all residents. Common use areas include entry and hallways, stairs and stairwells, rest rooms, and vending areas within dedicated facilities. Access restrictions, for security or other reasons, do not alter this definition.

**Computerized Maintenance Management System (CMMS)**

A set of computer software modules and equipment databases containing facility data with the capability to process the data for facilities maintenance management functions. They provide historical data; report writing capabilities, job analysis, and more. The data describe equipment, parts, jobs, crafts, costs, step-by-step instructions, and other information involved in the maintenance effort. This information may be stored, viewed, analyzed, reproduced, and updated with just a few keystrokes. The maintenance-related functions typically include facility/equipment inventory, facility/equipment history, work input control, job estimating, work scheduling and tracking, preventive and predictive maintenance, facility inspection and assessment, materials management, utilities management.

**Condition Based Maintenance (CBM)**

Maintenance when need arises. This maintenance is performed after one or more indicators show that equipment is going to fail or that equipment performance is deteriorating.

**Condition Monitoring**

Continuous review of a condition parameter in machinery (vibration, temperature, etc.), in order to identify a significant change that is indicative of a developing fault.

**Consent to Subcontract**

The Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

**Construction**

Any and all field work for the purpose of building new facilities, and modifying, rehabilitating, or repairing existing facilities.

**Contracting Officer (CO)**

Government employees with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings.

**Contracting Officer's Representative (COR)**

A Government employee with technical training and experience appointed by the Contracting Officer to assist in the following functions:

- (a) Ensuring services under the terms and conditions of this contract are accomplished as defined.
- (b) Providing technical clarification of work requirements specified in their functional WBS. The COR serves as the central point of contact between the customer, Contractor, and the Contracting Officer.

**Contractor-Acquired Property**

Property acquired, fabricated, or otherwise provided by the contractor for performing a contract and to which the Government has title.

**Contractor Purchasing System Review (CPSR)**

The complete evaluation of a contractor's purchasing of material and services, subcontracting, and subcontract management from development of the requirement through completion of subcontract performance.

**Control Room**

A room where personnel control or direct a program, function or process (i.e., a data center, test control center, etc.)

**Consumables**

Expendable material and/or supplies used on a recurring basis.

**Criticality Level**

A numeric code (1-5) assigned to identify the criticality of the equipment/system in event of failure, in accordance with the following criteria:

Level 1 -Safety and/or environmental impact, with a single point of failure



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Level 2 -Significant impact to NASA or tenant mission with single point of failure

Level 3 -Operational impacts to NASA or tenant, multiple failures required

Level 4 -Minimal impact to operations, impact to personnel use of facility only

Level 5 -No impact to operations/non-critical

### **Daily (5W)**

Services performed once each calendar day, Monday through Friday, excluding Federal holidays unless otherwise specified.

### **Day**

For purposes of this contract, a day is defined as 1 calendar day unless specified differently in the PWS.

### **Debris**

Debris includes, but is not limited to, paper, cans, bottles, limbs and branches, pine straw and pine cones, leaves, rocks, wood, metal, tobacco usage remains (e.g., cigarette butts, smokeless tobacco) and other similar items. Construction debris is excluded.

### **Deferred Maintenance (DM)**

Formerly known as “Backlog of Maintenance and Repair (BMAR),” the total of essential, but unfunded, facilities maintenance work necessary to bring facilities and collateral equipment to the required acceptable facilities maintenance standards. It is the total work that should be accomplished but that cannot be achieved within available resources. It does not include new construction, additions, or modifications. DM does include unfunded maintenance requirements, repairs, Replacement of Obsolete Items (ROI), and Construction of Facilities (CoF) repair projects.

### **Delinquent Orders**

Items or services not received or performed by the due date or completion date.

### **Direct Buy**

Purchase in response to NASA or Tenants for supplies and services other than replenishment of stock and inventory.

### **Disinfecting**

The removal or neutralization of material containing, or supporting the growth of bacteria/viral organisms capable of causing infection in humans if untreated.

### **Electrical**

Includes, but is not limited to, electrical wiring and lighting, hardware, and panels; power for equipment up to the point of disconnect, grounding or lightning arresting systems; alarm systems and communication equipment (excluding telephones).

### **Energy Management and Control System (EMCS)**

A computerized system for monitoring and controlling systems and equipment through an integrated network of microprocessor based controls.

### **Entrance Ways**

Common space at entry points to buildings/facilities, interior and exterior (i.e., breezeway, lobbies, foyers, etc.)

### **Executive Offices/Areas**

Areas occupied by NASA and tenant senior management personnel.

### **Facilities**

For the purpose of this contract, a facility is an enclosed structure to protect personnel, material or equipment from the elements and provide associated work or storage space. It includes the utility systems inside the building/structure and extends five feet from the facility or as otherwise defined. Some typical examples of facilities are listed below:

#### **(a) Architectural**

Includes (interior/exterior) doors; windows; flooring (coatings and coverings); stairs and stairwells; interior walls, ceilings, and partitions.

#### **(b) Structural**

Includes foundation; structural system; building shell; roof; external attachments (e.g. walkway covers, overhangs, loading docks, etc.); and facilities water collection and drainage system.

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### (c) Electrical

Includes electrical wiring and lighting hardware, and panels; power for equipment up to the point of disconnect; grounding or lightning arresting systems; alarm systems; communication equipment (excluding telephones); Data Acquisition Systems (DAS); control systems; instrumentation; video systems (cameras, high & low speed); GH2, GO2, and H2O2 detection systems; fire detection systems; intercom/paging systems; infrared (IR) and photographic cameras; and mass spectrometer systems.

### (d) Mechanical

Includes all equipment, components and controls associated with the following systems as well as components located outside the facility: HVAC; plumbing; compressed air; steam; fire suppression; gas; boilers, furnaces; generators; propellant and pressurization systems, tanks and delivery systems; test article thrust measurement, thrust restraints, propellant ignition, component hydraulic and pneumatic actuation systems; environmental and test article purge systems; and related water deluge, and other ancillary and support systems.

### (e) Building Specialty

Includes installed equipment within the facility such as food service and processing equipment; appliances; elevators; automatic doors; roll-up doors; blast doors; vehicle gates; waste disposal equipment; shop equipment and hoists; and Visitor Center exhibits.

### **Facility Activation Plan (FAP)**

A plan developed in support of a task or project that identifies items used to verify and/or validate facility systems which must meet test article customer test objectives. The FAP shall include, but is not limited to, cleanliness verification, leak checks, cold flows, and/or DAS validation.

### **Facility Manager Program (FMP)**

A program utilized at SSC for the purpose of providing management tools and reporting processes to enhance all aspects of SSC overall facility management activities.

### **Fee Area**

An area of approximately 25 square miles (13,800 acres) of government-owned land. The property was acquired in "Fee Simple" and includes the underlying mineral rights. It is within this area that NASA and the other resident agencies have constructed the test facilities, laboratories and office and support buildings necessary for conducting their operations.

### **Finding**

A conclusion, positive or negative, based on facts established during the investigation by the investigating authority (i.e., cause, contributing factor, and observation).

### **Fiscal Year**

An accounting period of 12 months. NASA fiscal year extends from October 1 through September 30 of the following year.

### **Five-Year Facilities Maintenance Plan**

A long-range plan based on the total maintenance requirements. The plan is a proposed accumulation of Annual Work Plan (AWP) data primarily generated from the Facility Condition Assessment and projected costs using historical data and based on missions, risk analysis, and established standards.

### **Generator**

A generator is any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR Part 261 or whose act first causes a hazardous waste to become subject to regulation.

### **Government Property**

All property owned or leased by the Government or acquired by the Government under the terms of the contract.

### **Ground Support Equipment (GSE)**

Non-flight equipment, systems, or devices specifically designed and developed to support flight hardware. The equipment includes but is not limited to transporters, slings, hoists, dollies, lift beams, covers, access stands, handling fixtures, as well as equipment required for inspection, test and checkout of flight system. Reference NASA-STD-8719.9, *Standard for Lifting Devices and Equipment* and SWI-8834-0001, *Lifting Devices and Equipment Management Instructions* for further definition.

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### **Hazardous Waste**

Waste that poses substantial or potential threats to public health or the environment (i.e., corrosive, flammable, toxic, etc.)

### **Immediate/Immediately**

For purposes of this contract, immediately means with no interval of time or delay.

### **Inactive Facility**

Any facility that has no specific and present or near-term program or institutional requirement. The inactive facility may be placed in a "Standby," "Mothballed," or "Abandoned" status.

### **Incident**

An occurrence of a mishap or close call.

### **Industrial**

An area dedicated to maintenance, testing, manufacturing, and warehousing (i.e., shop areas, fabrication areas, manufacturing areas, equipment rooms, test stands, and warehouses.)

### **Industrial Waste**

Waste produced by industrial activity, such as by-products of maintenance, manufacturing, etc., (e.g., metal, metal shavings, scrap maintenance materials, etc.)

### **Installation-Accountable Government Property (IAGP)**

Government property in the possession of, or directly acquired by the Government and subsequently made available to the Contractor for use in the performance of work related to this contract.

### **Labs**

A room or building equipped for scientific experimentation, research, or analysis.

### **Lobbies**

Common space at entrance way points to buildings/facilities (i.e., entry ways, foyers, etc.)

### **Location**

The Contractor shall define the place where each type of work will be performed.

### **Maintenance**

Includes day-to-day periodic, scheduled or unscheduled work required to preserve or restore a piece of equipment, a system, or utility to such a condition that it may be effectively utilized for its intended purpose, output, redundancy and availability.

### **Maintenance Level**

A designation used to specify the frequency of services and type of services and Grounds maintenance required.

### **MAXIMO**

The MAXIMO Equipment Database identifies numbered equipment items and gives criticality for each. Definitions for criticality levels are provided in *Reliability Centered Maintenance (RCM) Criticality Levels*.

### **Mechanical**

Includes all equipment, components and controls associated with the following systems as well as components located outside the facility: HVAC; plumbing; compressed air; steam; fire suppression; gas; boilers, furnaces; and generators.

### **Mishap**

An unplanned event that results in at least one of the following:

- (a) Injury to non-NASA personnel, caused by NASA operations.
- (b) Damage to public or private property (including foreign property), caused by NASA operations or NASA-funded development or research projects.
- (c) Occupational injury or occupational illness to NASA personnel.
- (d) NASA mission failure before the scheduled completion of the planned primary mission.
- (e) Destruction of, or damage to, NASA property except for a malfunction or failure of component parts that are normally

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subject to fair wear and tear and have a fixed useful life that is less than the fixed useful life of the complete system or unit of equipment, provided that the following are true: 1) there was adequate preventative maintenance; and 2) the malfunction or failure was the only damage and the sole action is to replace or repair that component.

### **Mission Critical**

Any factor of a system, utility, equipment, operation, etc., whose failure will result in the failure of business operations. That is, it is critical to the organization's 'mission'.

### **Monitor and Inspect**

These terms are used in conjunction with "Operate" to delineate system activities other than actual operations that require periodic staffing. The Government requires that trained personnel would accomplish these activities with ability to recognize abnormal conditions and evidence of potential problems.

### **Monthly (M)**

Services performed 12 times during each 12-month period of the contract at intervals of 28 to 31 calendar days.

### **Monthly Management Status Review (MMSR)**

A summary of contract performance and status to stakeholders.

### **Mothballed**

Inactive facility status assigned to facilities that have been deactivated but for which maintenance measures have been taken to prevent deterioration of essential systems. Mothballing generally results in higher first-year costs, but future annual costs are lower due to reduced maintenance and repair requirements. The total time to deactivate and then to reactivate a facility, including the mothballed period, generally exceeds 36 months.

### **Multi-Media**

These services include black and white and color graphics, artwork, editing, printing multi-media and photographic services, visualization capability for graphics rendering, and animations resulting in three dimension simulations of plans, drawings, data files, and image files.

### **Mutual Aid**

The act of responding to the local communities with emergency support as part of a reciprocal agreement will be given in accordance with mutual aid agreements.

### **NASA data**

Any data that is collected, generated, maintained, or controlled on behalf of NASA.

This includes any methods used in the generation of said data.

### **National Center for Advanced Manufacturing (NCAM)**

NCAM consists of state of the art manufacturing equipment/capability (e.g. friction stir weld, fiber placement, machining, non-destructive evaluation) that is owned by the state of Louisiana and resides at MAF. This equipment is managed and operated by the SACOM contractor as a shared resource at MAF.

### **Noncollateral Equipment**

Includes all equipment other than collateral equipment. Such equipment, when acquired and used in a facility or a test apparatus, can be severed and removed after erection or installation without substantial loss of value or damage thereto or to the premise(s) where installed. Noncollateral equipment imparts to the facility or test apparatus its particular character at the time (e.g., furniture in an office building, laboratory equipment in a laboratory, test equipment in a test stand, machine tools in a shop facility, computers in a computer facility) and is not required to make the facility useful or operable as a structure or building.

### **Non-reimbursable Customers**

A customer who is funded by NASA Direct appropriations.

### **Occupied Period**

Hours in which a facility is in use, to house personnel or other activities that require utility support (may include working and non-working hours).

### **Operate**

This term is used for systems that require periodic operational activities but not continuous staffing. Personnel may be available for other contract activities. Operations include the first hour of trouble-shooting/investigation of a malfunction or availability loss, and

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also includes operational support for planned outages required for Utility PM's.

### **Operations (OPS)**

The act or process of operating.

### **Operator Based Maintenance (OBM)**

Maintenance tasks typically performed by operations and/or production personnel such as cleaning and subjective inspection; sometimes referred to as Operator Maintenance.

### **Outage**

The planned, or unintentional interruption or termination of a utility service such as electricity, water, sanitary sewage, EMCS control, or natural gas.

### **Planned Maintenance (PLM)**

Refers to a planned repair; a repair performed prior to failure. Material condition degradation, usually identified through PM or other inspection and is repaired to prevent catastrophic failure. Includes Planned Maintenance Projects (PMPs). (Note: Reference definition for PTIR when condition degradation is identified through PTI techniques.)

### **Planned Maintenance Projects (PMP)**

Projects that may stem from previously deferred or discretionary work, a programmed maintenance activity or as otherwise approved by the Government.

### **Purchase Request (PR)**

Purchase Request in either the NASA/SSC Access Request System or the Contractor-provided System.

### **Predictive Testing and Inspection (PTI)**

The use of testing techniques (primarily non-intrusive), visual inspection, and performance data to assess equipment condition. Continuing analysis of equipment condition is used to replace arbitrarily timed maintenance tasks with maintenance that is scheduled based on equipment condition.

### **Predictive Testing and Inspection Repairs (PTIR)**

Repair performed prior to failure. Identified through PTI technologies (includes CBM) and repaired to prevent catastrophic failure.

### **Preventive Maintenance (PM)**

Planned, scheduled periodic inspection; adjustment, cleaning, lubrication, parts replacement; and calibration of components, equipment and systems. Also frequently called time-based, but in the broad sense, is extended to include PTI.

### **Proactive Maintenance (PAM)**

Maintenance that seeks to reduce costs through better design, construction/installation, specifications, maintenance procedures, workmanship, and scheduling. Proactive maintenance employs techniques such as specification of new/rebuilt equipment, precision build/installation, failed part analysis, root-cause failure analysis, reliability engineering, rebuild certification/verification, age exploration and recurrence control.

### **Production Support Systems Manager (PSSM)**

Civil servant personnel whose primary function is to work with the contractor, stakeholders, and other NASA service providers to identify and determine if user(s)/tenant(s) requirements can be satisfied. The PSSM is responsible for coordinating strategic or mission critical items with NASA management and user/tenant management to ensure all mechanisms (funding, contracts, etc.) are in place to support the user/tenant mission. Primary functions include:

- (a) Supporting site development in collecting initial prospect requirements and identifying approach to satisfying requirements.
- (b) Collecting, analyzing and inputting user(s)/tenant(s) requirements into NASA database.
- (c) Coordinate with other PSSMs to ensure integration of the user(s)/tenant(s) community. Communicate impacts/conflicts and mitigation recommendations to NASA management and NASA boards as required.
- (d) Maintain communication with all tenants/users to ensure facilities requirements are being met and proper funding is allocated to support requirements.

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### **Programmed Maintenance**

Programmed maintenance consists of those maintenance tasks whose cycle exceeds one year, such as painting a building every 5<sup>th</sup> year.

### **Proof Load (P/L)**

The act of applying a specific load or weight in the support of a preventive maintenance task (i.e., proof load test).

### **Project Management Plan (PMP)**

Details of a specific scope of work relating to design and study services and deliverables.

### **Quarterly (Q)**

Service is accomplished 4 times during each 12-month period of the contract, at intervals of 80 to 100 days.

### **Quinquennially**

Also called 5-year Frequency. Activities accomplished 1 time during each 60-month period of the contract, at intervals of 58 to 62 months. 20% of the Quinquennial

Tasks shall be completed each year under any given task sheet.

### **Raster Master Drawings**

Master facility drawings that have been scanned into electronic format.

### **Ready-for-Issue**

In usable condition and available for immediate use.

### **Recurring Work**

Work which is performed under the contract which is not a part of the scheduled maintenance and repair program and is required an undetermined number of times during the year, but is required at least once. This work will be accomplished as required. An example is implementation of the Hurricane Plan that will be performed (partially) once per year at the start of hurricane season with the resumption and completion of the plan carried out dependent on the number of storms that threaten the Gulf Coast.

### **Redline Drawing**

A drawing which has had approved modifications/ changes not incorporated in the controlled official archives.

### **Reimbursable Customers**

A government or non-government customer who provides funding under a reimbursable agreement for goods and/or services received from NASA and/or its contractors. Reimbursable customers must have sufficient funding registered with NASA before costs can be incurred on their behalf. All services must be requested on a Stennis Work Request and must cite the funding authorization that will provide the reimbursement.

### **Reliability Centered Maintenance (RCM)**

An on going structured process which determines the optimum mix of reactive, preventive, PTI and proactive maintenance practices in order to provide the required reliability at the minimum cost.

### **Reliability-Centered Maintenance (RCM) Criticality Levels**

Level I-Safety and/or Environmental Impact

Level II -Mission Operational Impact

Level III -Significant Operational Impact (replacement cost)

Level IV-Personnel Costs (loss of facility use)

Level V -Non-Critical

**Repair (RP)**

The facility work required restoring a facility or component thereof, including collateral equipment, to a condition substantially equivalent to its originally intended and designed capacity, efficiency, or capability. It includes the substantially equivalent replacements of utility systems and collateral equipment necessitated by incipient or actual breakdown. (Note: Reference definitions for PLM and PTIR for planned repairs.)

**Replacement of Obsolete Items (ROI)**

Programmed replacement of components because the components are becoming obsolete (no longer parts-supportable at the end of service life), do not meet electrical or building codes, or are unsafe but are still operational and would not be construed as broken and needing repair. Examples include, but are not limited to, electric switchgear, breakers, and motor starters; elevators; control systems; boiler and central heating, ventilating, and air conditioning (HVAC) systems and controls; fire detection systems; cranes and hoists; and air conditioning systems using chlorofluorocarbon (CFC) refrigerants.

**Responsiveness**

The Contractor shall define the philosophy and method to be used to assure responsiveness to customers' requirements. Communication between the customers and the Contractor must be clear.

**Retro-commissioning**

A systematic process for improving and optimizing building performance in an existing building that has never gone through any type of commissioning or quality assurance process.

**Right-of-Way (R/W)**

A tract of land where utilities exist that varies in width from 20 feet to 60 feet.

**Systems Applications and Products (SAP)**

The SAP product in use is SAP 6.0 and is NASA's financial accounting and reporting system used to record transactions, analyze data, and generate operating data reports. The Contractor is not responsible for SAP software; however, the Contractor is required to utilize SAP as stated in the PWS.

**Semi-Annually (S)**

Service is accomplished 2 times during each 12-month period of the contract, at intervals of 160 to 200 days.

**Semi-annually (2A)**

Services performed 2 times during each 12-month period of the contract at intervals of 6 months.

**Semi-monthly (2M)**

Services performed 24 times during each 12-month period of the contract at intervals of 14 to 16 calendar days.

**Service Requests (SR)**

Service Requests are facilities-related work, but not maintenance items that are so often performed by facilities maintenance organizations they are captured as a work type under O&M. Service requests are valued less than \$5,000 for labor and materials.

**Shared Manufacturing and Fabrication Resources**

Shared manufacturing and fabrication resources are shared between NASA projects and other MAF user(s)/tenant(s) and shall include but are not limited to:

- (a) Chemical clean facilities
- (b) Paint shops
- (c) NCAM
- (d) Non-destructive evaluation/testing services
- (e) Heat treat facilities
- (f) Machine shop(s)
- (g) Non-dedicated buildings/areas

**Shift**

The period of time defined as one third of a 24-hour day.

**Site-Wide Oriented Repair Documentation (SORD) Drawings**

Master facility drawings, hard/electronic, and acts as official record of site facilities.

**Six-Year Frequency**

Activities accomplished one time during each 72-month period of the contract, at intervals of 70 to 74 months.

**Specification Control Drawings (SCD)**

Detailed drawings showing parts and specifications of individual elements of a component, or system such as valves, controllers, expansion joints and pipefittings.

**Special Purpose Mobile Equipment (SPME)**

Commercially available, self-propelled vehicles or trailers that incorporate internal combustion engine power designed for special-purpose use, e.g., forklifts, bulldozers, cranes, fire trucks, tractors, pressurant and propellant trailers, and certain aircraft ground support equipment. It does not cover general-purpose vehicles, house trailers, or portable shop equipment, such as welders. In gray areas, the NASA Transportation Officer will make the final determination as to whether or not equipment will be treated as SPME.

**Special Test Equipment (STE)**

This designator is assigned by test programs to differentiate between facility systems/equipment and systems/equipment that is specific to the test article. Interface points between facility and STE are normally shown on Interface Control Drawings (ICD) that is part of the SORD Drawing System or by memorandum of agreement (MoA).

**Staff and Operate**

This term is used for systems that require continuous staffing during the operational period. Personnel may also operate other systems within the immediate vicinity.

**Standard Operating Procedure (SOP)**

This is a standing procedure that provides step-by-step instructions to operate systems. It is used for activities that commonly occur. A SOP can be referred to as an Operations Manual, Utility Process Plan, Work Instructions, etc.

**Standby**

Inactive facility status assigned to facilities that are temporarily not in use but appropriate maintenance measures have been taken to maintain essential operating systems in a state of readiness or availability for future use. Selective, cost-effective facilities maintenance and repair are required. Total time to deactivate and then to reactivate the facility, including the standby period, is expected to be 36 months or less.

**Standing Work**

Work which is performed under the contract which is not a part of the Scheduled Maintenance and Repair Program and is required a pre-determined number of times during the year. The schedule can be specifically called out as in, once per hour or may be left to the Contractor, as in, once annually. An example is implementation of the Fall/Winter Setback Plan that always occurs once per year during the fall of the year.

**Store Stock**

Material being held in inventory by the installation, which is repetitively procured, stored, and used on the basis of receiving demand.

**Structural**

Includes foundation; structural system; building shell; roof; external attachments (e.g. walkway covers, overhangs, loading docks, etc.); and facilities water collection and drainage system.

**Structures**

A structure is a constructed unit established for a designated objective. Structures that are part of or inside a facility are included with the facility. For purposes of this contract, structures are generally described as:

- (a) Allowing pedestrian and vehicular transportation. Includes roads and parking areas, paved or gravel surfaces, curbs, shoulders, guard rails, medians, wheel stops, walkways, bridges, sidewalks, and associated hardware.
- (b) Preventing access and maintaining privacy. Includes fences, gates, barbed wire, grounding systems, planters, bollards, chains, and associated hardware and attachments.
- (c) Retaining or directing natural elements. Includes culverts, drainage systems, gravity storm water systems, retaining wall, bulkheads, landscaped borders, head walls, rip rapped areas, retention/detention ponds, spillways, canals, navigational lock, catch basins, and oil/water separators.
- (d) Providing information. Includes signs, pavement markings, flagpoles, displays, historical markers, monuments, and associated equipment.
- (e) Other -Boat ramps, docks, landfill, and associated equipment.



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### **Subcontract**

Any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for the performance of the prime contract or a subcontract. It includes, but is not limited to purchase orders, and changes and modifications to purchase orders.

### **Subcontractor**

Any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or another subcontractor.

### **System/Subsystem**

Groups/Sub-groups of equipment forming a network serving a common purpose.

### **Test Complex**

For the purpose of this contract, a general term used to identify the area(s) including and surrounding the test stands and test support areas.

### **Three times weekly (3W)**

Services performed three times a week, on Monday, Wednesday, and Friday.

### **Training/Certification**

The Contractor shall define the methods to train and certify new and existing employees in areas that require certification and address how the contractor will handle attrition.

### **Trained personnel**

Personnel trained in the material being presented, and holding the credentials or licenses required, as appropriate for the type of training session.

### **Transaction**

Single purchase action of material/equipment to a single source (vendor) regardless of the number of line items on an order.

### **Trash/waste removal**

The collection and disposal of all materials that have been placed into appropriate containers dedicated for disposal or bagged and set aside.

### **Trouble Calls (TCs)**

TCs (a subset of repair) are unplanned and generally called in by telephone or submitted electronically primarily by the facility managers or maintenance workers.

### **Two times weekly (2W)**

Services performed two times a week, on Tuesday and Friday. (Defined days are subject to change at the discretion of the CO.)

### **Utilities**

For purposes of this PWS, consist of 13.8 kV Electrical System, Potable Water System, Sanitary Sewage System, EMCS System, Natural Gas System, etc., as defined and described in section 6.0.5.

### **Utility Process Plan (UPP)**

This plan is submitted one-time per operation. Contractor generated, document that provides step-by-step instructions that establish responsibility and control system configuration changes. It provides details such as lockout/tag-out, switch operation, valve operation, coordination, etc.

### **Utility System**

A utility system is a system for collecting or distributing services between a common point and specific locations both above and belowground.

### **Weekly (W)**

Services performed 52 times during each 12-month period of the contract at intervals of 6 to 7 calendar days.

### **Work Control Center**

The central organizational point for receipt, tracking, and management of work generated from all sources.

### **Work Location**

The Contractor shall define the location where each type of work will be performed (or location based out of).

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### Yearly

Service is accomplished one time during each 12-month period of the contract, at intervals of 11 to 13 months.

### ACRONYMS

A&E	Architectural and Engineering
ABIH	American Board of Industrial Hygiene
ABHP	American Board of Health Physics
ACA	Associate Contractor Agreements
ACGIH	American Conference of Governmental Industrial Hygienists
ACLS	Advanced Cardiac Life Support
AED	Automated External Defibrillator
AEE	Association of Energy Engineers
AIHA	American Industrial Hygiene Association
AMC	GSA Accident Management Center
AFS	Agency Filing Scheme
ALARA	As Low as Reasonably Achievable
ANSI	American National Standards Institute
APHA	American Public Health Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-destructive Testing
ASQ	American Society for Quality
AST	Aboveground Storage Tank
ASTM	American Society for Testing Materials
ATRR	Activation Test Readiness Review
AWP	Annual Work Plan
AWS	American Welding Society
BCRN	Biological, Chemical, Radiations, Nuclear
BEMS	Base Environmental Management System
BHMA	Building Hardware Manufacture's Association
CCB	Configuration Control Board
CCRS	Close Call Reporting System
CFD	Computational Fluid Dynamics
CFO	Chief Financial Office
CFR	Code of Federal Regulations
CDS	Contract Deliverable System
CERCLA	Comprehensive Environmental response, Compensation, and Liability Act
CIH	Certified Industrial Hygienists
CISO	Chief Information Security Officer
CM	Corrective Maintenance, Construction Monitor or Configuration Management
CMDR	Calibration Maintenance Data Report
CMMS	Computerized Maintenance Management System
CMR	Calibration Maintenance Report
CNC	Computer Numerically Controlled
CO	Contracting Officer
COB	Close of Business
CoC	Certificate of Completion
COD	SSC Center Operations Directorate
CoF	Construction of Facilities
COOP	Continuity of Operations Plan
COR	Contracting Officer's Representative
COTS	Commercial-Off-The-Shelf
DDMS	Design and Data Management System
DOT	Department of Transportation
DRD	Deliverable Reports Documentation
DSPL	NASA Property Disposal Management System
EDS	Energy-Dispersive Spectrometry
EMCS	Energy Management and Control System
EMD	Environmental Management Division

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EMI	Engineering Modification Instruction
EMP	Emergency Management Plan
EMS	Environmental Management System
ENV	SSC Environmental Laboratory
EO	Environmental Officer or Executive Order
EOC	Emergency Operations Center
EOY	End of Year
EPA	Environmental Protection Agency
EPACT	Energy Policy Act
EPCRA	Emergency Planning and Community Right to Know Act
ERC	Education Resource Center
ETA	Engineering Technical Authority
FAP	Facility Activation Plan
FAR	Federal Acquisition Regulation
FCPF	Fluid Component Processing Facility
FCR	Facility Change Request
FM	Facility Manager
FMP	Facility Manager Program
FOD	Foreign Object Debris
FTIR	Fourier Transform Infrared
GEE	Government Essential Equipment
GFE	Government Furnished Equipment
GFP	Government Furnished Property
GFS	Government Furnished Services
GFY	Government Fiscal Year
GIDEP	Government Industry Data Exchange Program
GIS	Geographic Information System
GMSL	SSC Gas and Material Science Laboratory
GN2	Gaseous Nitrogen
GPD	Gallons per Day
GPH	Gallons per Hour
GPM	Gallons per Minute
GRS	General Records Schedules
GSA	General Services Administration
GSE	Ground Support Equipment
HAZMAT	Hazardous Materials Training
HAZWOPER	Hazardous Waste Operations and Emergency Response
HID	High Intensity Discharge
HPG	High Pressure Gas
HPGF	High Pressure Gas Facility
HPIW	High Pressure Industrial Water
HQ	Headquarters
HSDAS	High Speed Data Acquisition System
HSEEP	Homeland Security, Exercise and Evaluation Program
HUBZone	Historically Underutilized Business Zone
IAM	Integrated Asset Management
IAGP	Installation-Accountable Government Property
IEEE	Institute of Electrical and Electronics Engineers
IFMS	Interagency Fleet Management System
IDIQ	Indefinite Delivery Indefinite Quantity
IH	Industrial Hygiene
IM&TE	Inspection, Measurement, and Test Equipment
IHMS	Integrated Health Monitoring System
IPA	Isopropyl Alcohol
IRMA	Integrated Risk Management Application
ISI	In-Service Inspection
ISO	International Organization for Standardization
IT	Information Technology
ITD	Inception to Date
ITS	Information Technology Services

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IWTF	Industrial Wastewater Treatment Facility
JP	Jet Propellant
LAN	Local Area Network
LCC	Life-Cycle Costs
LSC	Lab Services Contract or Lab Services Contractor
LDEQ	Louisiana Department of Environmental Quality
LH2	Liquid Hydrogen
LN2	Liquid Nitrogen
LOX	Liquid Oxygen
LPDES	Louisiana Pollutant Discharge Elimination System Permit
LSDAS	Low Speed Data Acquisition System
MAF	Michoud Assembly Facility
MAP	Measurement Assurance Program
MCWG	NASA Metrology and Calibration Working Group
MDEQ	Mississippi Department of Environmental Quality
MDOH	Mississippi Department of Health
MIDL	Marshall Integrated Document Library
MITS	Marshall Information Technology Services
MoA	Memorandum of Agreement
MMI	Materials Management Initiative
MMSR	Monthly Management Status Review
MPCT	Materials and Process Control Team
MPD	Marshall Policy Directive
MPR	Marshall Procedural Requirements
MR	Material Request
MRB	Material Review Board
MS&CL	SSC Measurements Standards and Calibration Laboratory
MSDH	Mississippi State Department of Health
MSFC	Marshall Space Flight Center
MWI	Marshall Work Instruction
NARA	National Archives and Records Administration
NASA	National Aeronautics and Space Administration
NAVOCEANO	Naval Oceanographic Office
NCCIPS	National Center for Critical Information Processing and Storage
NRC	Nuclear Regulatory Commission
NDBC	National Data Buoy Center
NDE	Non-Destructive Evaluation
NDT	Non-Destructive Testing
NEPA	National Environmental Policy Act
NETS	NASA Environmental Tracking System
NFPA	National Fire Protection Association
NFS	NASA FAR Supplement
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NVLAP	National Volunteer Laboratory Accreditation Program
NVR	Nonvolatile Residue
NMMG	NASA Mail Management Guide
NMIS	NASA Mishap Information System
NODIS	NASA Online Directives Information System
NOFD	New Orleans Fire Department
NPD	NASA Policy Directives
NPDES	National Pollutant Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NPR	NASA Procedural Requirements
NRC	National Response Center (Section 3.4)
NRC	Nuclear Regulatory Commission (Section 3.3.1)
NRL	Naval Research Laboratory
NRRPT	National Registry of Radiation Protection Technologist
NRRS	NASA Records Retention Schedules
NSN	National Stock Number

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NSSC	NASA Shared Services Center
NVLAP	National Voluntary Lab Accreditation Program
O&M	Operations & Maintenance
OBM	Operator Based Maintenance
OC	Office of Communications (SSC)
OCE	Office of the Chief Engineer
OCIO	Office of the Chief Information Officer
OCOM	Office of Communication Operations Manual
ODS	Ozone Depleting Substances
OE	Office of Education (SSC)
OEM	Original Equipment Manufacturer
OI	Operating Instruction
OM	Occupational Medicine
OPS	Operations
ORI	Operational Readiness Inspections
ORR	Operational Readiness Review
OSHA	Occupational Safety and Health Administration
PLC	Programmable Logic Controller
PLM	Polarized Light Microscopy
PMP	Project Management Plan
PPBE	Planning Programming Budgeting Execution
PPE	Personal Protective Equipment
PP&E	Property, Plant, and Equipment
PR	Problem Report
PRR	Production Readiness Reviews
PSLE	Production Support Lead Engineer
PSSM	Production Support Systems Manager
PTI	Predictive Testing and Inspection
PTIR	Predictive Testing and Inspection Repairs
PV/S	Pressure Vessels and Systems
PWS	Performance Work Statement
QA	Quality Assurance
QC	Quality Control
QAMP	Quality Assurance Management Plan
QAPP	Quality Assurance Program Plan
RCM	Reliability Centered Maintenance
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RFI	Request For Information
RL	Reference Library
ROI	Replacement of Obsolete Items
ROM	Rough Order of Magnitude
RP-1	Rocket Propellant-1
RPT	Rocket Propulsion Test
RSO	Radiation Safety Officer
S&MA	Safety and Mission Assurance
S&WB	Sewage and Water Board
SAP	Systems Applications and Products
SARA	Superfund Amendments Reauthorization Act
SATERN	System for Administration, Training, and Educational Resources for NASA
SCD	Source Control Drawing
SCD	System Control Document
SCRS	Safety Concerns and Reporting System
SCWI	Stennis Common Work Instruction
SDB	Small Disadvantaged Business
SDS	Safety Data Sheet
SD-VOSB	Service Disabled Veteran Owned Small Business
SDWA	Safe Drinking Water Act
SE	Systems Engineering
SEM	Scanning Electron Microscopy

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SEMO	Supply & Equipment Management Officer
SHE	Safety, Health, and Environmental
SHETrak	Safety, Health, and Environmental-Finding Tracking System
SHPO	State Historical Preservation Office
SIES	Surveillance Inspection, Engineering Services
SIGIS	SSC Institutional Geographic Information System Laboratory
SIR	System Integration Review
SMA	NASA/SSC Safety and Mission Assurance Directorate
SMMS	SSC Metrology Management System
SOFI	Spray On Foam Insulation
SOI	Stennis Organizational Instruction
SOMRD	System Operation & Maintenance Responsibility Database
SOP	Standard Operating Procedure
SORD	Site-wide Operational and Repair Documentation
SOW	Statement Of Work
SpecsIntact	Specifications-Kept-Intact
SPCC	Spill Prevention, Control, and Countermeasures
SPD	Stennis Policy Directive
SPME	Special Purpose Mobile Equipment
SPR	Stennis Procedural Requirement
SR	Service Requests
SSC	John C. Stennis Space Center
SSTD	Stennis Standard
STD	Standard
STE	Special Test Equipment
STI	Science and Technical Information
SWR	Stennis Work Request
TA	Technical Authority
TDL	Technology Development Laboratory
TEA	Triethylaluminum
TEB	Triethylborane
TechDoc	Technical Documentation System
TEDS	Transducer Electronic Data Sheets
TFCH	Test Facilities Capabilities Handbook
TPS	Test Preparation Sheet
TPS	Thermal Protection System
TRI	Toxic Chemical Release Inventory
TRL	Technical Research Library
TRR	Test Readiness Reviews
TSCA	Toxic Substance Control Act
TSD	Treatment, Storage and Disposal
TSDF	Treatment, Storage, and Disposal Facility
TT&E	Test, Training, and Exercise
USDA	United States Department of Agriculture
USPS	U.S. Postal Services
USF&WS	United States Fish and Wildlife Services
USGS	United States Geological Survey
USM	University of Southern Mississippi
VAV	Variable Air Volume
VIP	Very Important Person
VITS	Video Teleconferencing System
VLAN	Virtual Local Area Network
VOSB	Veteran-Owned Small Business
VPP	Voluntary Protection Program
VR	ASME Pressure Vessel Code Stamp
VRS	Visitor Relation Specialist
VCM	Visitor Center Manager
WAD	Work Authorization Document
WAR	Weekly Activity Report
WBS	Work Breakdown Structure

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WCC	Work Control Center
WDS	Wavelength-Dispersive Spectrometry
WI	Work Instructions
WOSB	Women-Owned Small Business

**APPENDIX D  
PERFORMANCE REQUIREMENTS SUMMARY**

<b>Laboratory Services</b>			
<b>Performance Measures</b>	<b>Performance Standards</b>	<b>Work Requirements</b>	<b>Surveillance Method</b>
Program Management / Laboratory Services	100% Laboratory Availability	Coordinate Lab Maintenance activities with NASA and other agencies.	Validated Customer Complaints and/or Random Inspections
Program Management / Laboratory Services	Workload deliveries shall be a mixture of Routine (2-3 weeks), Special (less than 2 weeks, Expedite (3 days or less), and Immediate (Immediate turnaround required to support MAF manufacturing operations).	Coordinate Lab Maintenance activities with NASA and other agencies.	Validated Customer Complaints and/or Random Inspections
Calibrations up-to-Date	Calibrations completed per NASA requirements and SSC/MAF/Industry Standards	All in service equipment shall be maintained calibrated per NASA requirements or recalled per instructions.	Validated Customer Complaints and/or Random Inspections
Overdue Calibration Notification	Provide list of items overdue for calibrations per SPR 8730.4 & MPR 8730.5 requirements	All in service equipment shall be maintained calibrated per NASA requirements or recalled per instructions.	Validated Customer Complaints and/or Random Inspections
IM&TE out of tolerance report	Provide list of IM&TE that is out of tolerance and cannot be brought within specification per SPR 8730.4 & MPR 8730.5 requirements	All in service equipment shall be maintained calibrated per NASA requirements or recalled per instructions.	Validated Customer Complaints and/or Random Inspections
Program Management / Laboratory Services	Accurate and timely DRD submissions.	100% DRD on time submission.	Validated Customer Complaints and/or Random Inspections



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<b>Mission Assurance and Quality</b>			
<b>Performance Measures</b>	<b>Performance Standards</b>	<b>Work Requirements</b>	<b>Surveillance Method</b>
Quality	Environmental Data Requirements (DRs) Accurate and On-time	Maintain documentation. Submit verification letter. Submit accurate on time DR deliverables.	Validated Customer Complaints and/or Random Inspections
Quality	Maintain AS 9100 and ISO9001/ISO14001 Compliance	Maintain all certifications.	Validated Customer Complaints and/or Random Inspections
Program Management / Laboratory Services	Comply with NASA environmental wastewater, potable water and regulatory requirements.	Maintain and support the Integrated Natural Resource Management Plan (INRAMP).	Validated Customer Complaints and/or Random Inspections
Program Management / Laboratory Services	Mississippi and Louisiana Department of Health Certification (EN05)	Greater Than 90% Certification of Analysis list Submit EN05.	Validated Customer Complaints and/or Random Inspections
Training and Certifications	Maintain a workforce that is trained and certified per NASA requirements	Document certification and training records.	Validated Customer Complaints and/or Random Inspections
Deficiency Reporting and Corrective Action Reporting	D&CRs and CARs addressed and preventive action implemented.	Meet all required completion dates on D&CRs and CARs.	Validated Customer Complaints and/or Random Inspections
<b>Safety and Industrial Hygiene</b>			
<b>Performance Measures</b>	<b>Performance Standards</b>	<b>Work Requirements</b>	<b>Surveillance Method</b>
Safety, IH Plans, Reports and Submittals	Plans, and Reports submitted on time and accurately. Maintain IRIS and respond to close calls.	Comply with the submission requirements for plans, reports, IRIS, and close calls.	Validated Customer Complaints and/or Random Inspections
Occurrences Mishaps	No Class "A" or "B" Mishaps	Investigate and report all mishaps in accordance with NPR 8621.1, MWI 8621.1 and SPR 8715.1.	Validated Customer Complaints and/or Random Inspections
Regulation compliance to Federal, State and local Safety and IH	Develop and maintain an audit system to identify and correct non-compliance. Injury Prevention	Perform audits, inspections, surveillance and reviews to ensure compliance. Input to IRIS	Validated Customer Complaints and/or Random Inspections
Employee Safety	Develop and maintain an employee protection program	Maintain VPP Star certification for SSC and meet the requirements for MAF	Validated Customer Complaints and/or Random Inspections

**NNS15530603R, PWS****APPENDIX E  
OFF-SITE SERVICES**

Historically the Environmental Laboratory has sent dioxin analysis off-site and the Calibration Laboratory has sent the following items off-site for NASA Core work. The Contractor is responsible for verification and ensuring all calibrations or services are completed in accordance with the PWS.

NOMENCLATURE	MFR	MODEL NO:
LASER PARTICLE COUNTER	TSI	8240
POWER PLATFORM METER	DRATZ	PP-4300
ULTRAVIOLET METER	UVP	J-221
DOSE RATE METER	BICRN	RSO5
FIELD STRENGTH METER	ARDRO	MD-220
FLAW DETECTOR	PANAM	EPOCH4PLUS
FLAW DETECTOR	PANAM	EPOCH4PLUS
RADIOMETER	ARDRO	DLM-1000
RADIOMETER	ARDRO	DLM-1000
SURVEY METER	LUDLM	3
ULTRAVIOLET METER	SPTRN	DM365X
ELF FIELD MONITOR	WALK	ELF-60D
MONITOR HEAT STRESS	METR	HS-3800
MONITOR HEAT STRESS	METR	HS-3800
PARTICULATE MONITOR	HAZDT	HD-1000
PORTACOUNT RESPIRATOR TESTER	TSI	8020
FLOWMETER	AMCO	6" TURBINE
FLOWMETER	AMCO	6" TURBINE
FLOWMETER	AMCO	6" TURBINE
FLOWMETER	AMCO	6" TURBINE
DIGITAL SENSOR ARRAY	SCANV	DSA3217/16APX
DIGITAL SENSOR ARRAY	SCANV	DSA3217/16APX
RADIOMETER	ARDRO	DLM-1000
RADIOMETER	ARDRO	DLM-1000
RADIOMETER	ARDRO	DLM-1000
ULTRASONIC FLAW DETECTOR	KRAUT	USN60
ULTRAVIOLET METER	UVP	J-221